

COUNTY BOROUGH OF BURY.

ANNUAL REPORT

OF THE

Medical Officer of Health,

FOR THE YEAR
1911,

 ${\rm BY}$

G. GRANVILLE BUCKLEY,

M.D., D.P.H.

Medical Officer of Health for the Borough,
Medical Officer to the Education Committee,
AND

MEDICAL INSPECTOR UNDER THE MIDWIVES ACT.

BURY:

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HEALTH COMMITTEE, 1911.

CHAIRMAN - ALDERMAN PARKS.

DEPUTY-CHAIRMAN - COUNCILLOR T. B. SMITH.

THE MAYOR (Councillor W. Bridge).

Alderman	ASHWORTH,	Councillor	DUCKWORTH,
,,	DAWSON,	,,	HARDMAN,
,,	COLLINGE,	. ,,	HARGREAVES,
, ,	FLETCHER,	,,	HARRISON,
,,	GREENHALGH,	,,	G. A. KAY.
Councillor	BATTERSBY,	, ,	RILEY,
,,	BRADLEY,	,,	ROTHWELL,
,,	DAWSON,	,,	J. SMITH,
,,	DOUGLAS,	,,	A. TAYLOR.

Meetings—The Wednesday in each month immediately preceding the 14th day before the Council, at 10-0 a.m.

OFFICIALS OF THE HEALTH DEPARTMENT.

- Inspector of Nuisances, District Inspector of Moorside and East Wards, Inspector under Shop Hours' Acts, Inspector under Explosives Act, &c.:—John Haworth, Cert. R.S.I., Certified Sanitary Engineer.
- District Inspector for Bury South and Elton, Inspector of Common Lodging-Houses, Canal Boats, &c.:—Samuel Kay, Cert. R.S.I.
- Inspector of Meat, and of Dairies, Cowsheds, and Milkshops; Inspector of Offensive Trades, &c.:—W. P. Openshaw, Cert. R.S.I., Certified Inspector of Meat and other Food.
- Health Visitor, Inspector of Workshops (where Females are employed), Inspector under Shop Hours' Acts, Inspector of Midwives, &c.:—Nurse L. E. Walton, Assoc. R.S.I.
- School Visitor: LILIAN H. RISHTON, M.I.H.
- Chief Clerk:—P. Wood. Junior Clerk:—Fred Haworth.
- Disinfectors, Drain Testers, &c.:—John Kenyon and Henry Mitchell, Cert. R.S.I.

Medical Officer of Health:
G. Granville Buckley, M.D., D.P.H.

Inspector under Food and Drugs Acts, Abattoirs Superintendent: H. C. Cass (Markets Inspector).

Borough Analyst:—Thomas J. Hutchinson, F.I.C.

Veterinary Inspectors and Surgeons:—W. PACKMAN, M.R.C.V.S., AND W. E. S. RICHMOND, M.R.C.V.S.

Public Health Department, Parsons Lane,

BURY,

July, 1912.

To the Chairman and Members of the Health Committee.

Gentlemen,

I have the honour to present to you my Annual Report on the health and sanitary circumstances of your Borough during the year 1911.

Early in March an epidemic of Smallpox commenced which resulted in the notification of a total of 30 cases. The cases were of a somewhat mild type, and none were fatal.

The death rate shows an increase over that of 1910. This is chiefly accounted for by the increase in the number of deaths from Respiratory Diseases and Diarrhæa. The dry, hot summer of last year was exceptionally favourable to the spread of Epidemic Diarrhæa, no fewer than 65 deaths being registered as due to this cause alone, compared with 25 in the previous year.

Perhaps the most satisfactory feature of the report is the decrease in the number of notifications of Scarlet Fever, the number notified being less than half that of the previous year.

Another matter for congratulation is the small number of deaths attributed to Phthisis, the number (57) being the lowest recorded for the Borough.

This result speaks well for the methods employed in the Borough to combat this disease, and, in my opinion, fully justifies the expenditure incurred in the provision of Sanatorium treatment,

the appointment of an Inspector to visit home-treated cases, and also in the free distribution of sputum cups, handkerchiefs, &c.

For special items of information in this report I am indebted to Messrs. J. Ainsworth Settle, H. C. Cass, R. B. Rigby, J. Isherwood, S. Comfort, and to the Public Officials; also to many Medical Officers of Health, more particularly to my predecessor, Dr. Burnet, for the valuable aid given by the statistical records he has kept.

I have also to express my thanks to all the members of my staff for their loyalty and co-operation in their respective capacities, and to Mr. T. H. Turner for much valuable assistance in the preparation of this report.

Especially am I grateful to you for the courtesy, co-operation, and kind consideration extended to me.

I am, Gentlemen,
Your obedient Servant,
G. GRANVILLE BUCKLEY,
Medical Officer of Health.

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County Borough of Bury.

STATISTICAL SUMMARY, 1911.

Situation—Latitude, 53° 36′ N.; Longitude, 2° 18′ W.
Population, estimated to the Males27726 Total 58665 middle of the year 1911 Females30939
Number of Inhabited Houses (Census 1911)13721
Rateable Value
Marriages (Bury Union)
Births { Males 601
Annual Rate of Births per 1000 of the Population20.28
Deaths $\left\{\begin{array}{lll} \text{Males} & \dots & 478 \\ \text{Females} & \dots & 476 \end{array}\right\}$ Total 954
Annual Rate of Mortality Males 17.24 Females 15.38 Total 16.26
Excess of Registered Births over Deaths 236
Infantile Mortality 168 per 1000 Births.

Density.—The mean density of the Borough from the census of 1911 was equal to 10.05 persons per acre:—In Church Ward, 26.72; East Ward, 16.15: Moorside Ward, 9.33; Redvales Ward, 9.04; Elton Ward, 6.76.

Area.—The Municipal Borough of Bury comprises parts of what were formerly the Townships of Tottington-lower-End, Shuttleworth, Bircle-cum-Bamford, Heap, Pilsworth, Pilkington, Radcliffe and Elton, as well as the township of Walmersley, and has a total area of 5907 acres.

Elevation.—The mean elevation of the Borough is about 300 feet above sea level, and varies between 223 feet at Blackford Bridge and 765 feet at Higher Sedger Hey.

LEGAL SUMMARY.

Particulars of the Sanitary Laws in force in the Borough (other than Public General Acts):—

LOCAL ACT.

Bury Corporation Act, 1909.

ACTS CONFIRMING PROVISIONAL ORDERS.

Local Government Board's Provisional Orders Confirmation (No. 17) Act, 1903. (An Act to confirm certain Provisional Orders relating to Bury and the Bury and District Joint Hospital Board.)

Local Government Board's Provisional Orders Confirmation (No. 5) Act, 1911, which confirmed a Provisional Order made by the Local Government Board for the inclusion of Warth Fold within the Borough as from the 9th November, 1911.

ACTS ADOPTED.

Public Health Acts Amendment Act, 1890. (March 5th, 1891; came into operation May 1st, 1891.)

Infectious Diseases (Prevention) Act, 1890. (August 2nd, 1900; came into operation October 1st, 1901.)

Housing of the Working Classes Act, 1890—Part III. (June 3rd, 1909.)

Notification of Births Act, 1907. (March 5th, 1908.)

Public Health Acts Amendment Act, 1907. Orders made, declaring certain Parts and Sections thereof to be in force in the Borough, by the Local Government Board on November 8th, 1909 (came into operation 1st January, 1910), and by the Secretary of State on October 13th, 1909.

ACTS CONSTITUTING CERTAIN JOINT AUTHORITIES—

(i.) as to prevention of pollution of rivers, namely: Local Government Board's Provisional Orders Confirmation (No. 10) Act, 1891. (Confirming a Provisional Order constituting a Joint Committee, under section 14 of the Local Government Act, 1888, to enforce the provisions of the Rivers Pollution Prevention Act, 1876, in relation to parts of the Rivers Irwell and Mersey);

(ii.) as to water supply, namely:—Bury and District Water (Transfer) Act, 1900 (constituting the Bury and District Joint Water Board).

Estimated Population.—The Registrar-General estimated that the population of the Borough would be 58,665 at the middle of the year 1911, this being a decrease of 744 under the estimated population of the preceding year.

The following table shows the estimated population and the number of males and females in each ward of the Borough.

Ward.	Males.		Females	•	Total.
Moorside	6500		7709		14209
East	6073		6626		12699
Church	3398		3509		6907
Redvales	5069		5966		11035
Elton	6686		7129		13815
_		-			
Totals	27726		30939		58665

Rainfall for the Year 1911. Bury. (Yard, Parsons Lane).

JANTotal Rainfall 1.59in. Greatest fall in 24 hours 0.33in., date January 5th. No. of days on which 0.01in. or more fell = 16.
FEBTotal Rainfall 5'02in. Greatest fall in 24 hours 0'74 in., date February 21st. No. of days on which o'01in. or more fell = 19.
MarTotal Rainfall 2·11in. Greatest fall in 24 hours o·58in., date March 1st. No. of days on which o·01in. or more fell = 17.
APRL. Total Rainfall 2.93in. Greatest fall in 24 hours 0.60in., date April 27th. No. of days on which 0.01in. or more fell = 14.
MAY. Total Rainfall 2.46in. Greatest fall in 24 hours 1.25in., date May 13th. No. of days on which o.o.in. or more fell = 9.
JUNE Total Rainfall 3.04in. Greatest fall in 24 hours 0.83in., date June 24th No. of days on which 0.01in. or more fell = 13.
July Total Rainfall 0.22in. Greatest fall in 24 hours 0.06in., date July 19th. No. of days on which 0.01in. or more fell = 6.
AugTotal Rainfall 2·47in. Greatest fall in 24 hours o·63in., date August 20th. No. of days on which o·oɪin. or more fell = 11.
SEPTotal Rainfall 4.03in. Greatest fall in 24 hours 1.35in., date September 12th. No. of days on which o o in. or more fell = 14.
OctTotal Rainfall 3.74in. Greatest fall in 24 hours 0.57in., date October 20th and 29th No. of days on which 0.01in., or more fell = 17.
NovTotal Rainfall 4.50in. Greatest fall in 24 hours 0.62in., date November 12th. No. of days on which 0.01in. or more fell = 21.
DECTotal Rainfall 7.25in. Greatest fall in 24 hours 0.80in., date December 8th. No. of days on which 0.01in. or more fell = 28.
Total Annual Rainfall39°36 ins 43°86 ins. 45°52 ins Total No. of days on which rain fell 185 215 187
RAINFALL AT GREENWICH OBSERVATORY, 1911.
Total 23.65ins.
Number of wet days 158

BIRTHS.

During the year 1,204 births have been registered within the Borough, of which 15 belonged to other districts. By excluding these 15 births the number is reduced to 1,189, to which must be added one birth which occurred outside the Borough. This brings the corrected number of births to 1,190, of which 601 were boys and 589 were girls, representing a birth rate of 20.28 per 1,000 of the population, as compared with a rate of 20.79 per 1,000 in the preceding year. The corrected number of births registered shows a decrease of 45 as compared with the number for the previous year, and is 107 below the mean number for the ten years 1901-1910.

The birth rate for the year is the lowest recorded for the Borough, and is one of the most unsatisfactory features of the year's statistics. It compares very unfavourably with similar Lancashire towns, such as St. Helens 33.51, Bootle 30.2, Wigan 27.05, and Oldham 24.4 per 1,000 respectively.

WARD DISTRIBUTION.

	No. of Births.			Rate per 1,000				
Moorside		279		19.11				
East		285		23.94				
Church		160		21.92				
Redvales		184		17.16				
Elton		282		19.93				

Sixty of the above births were illegitimate, as compared with fifty-three in the previous year, being apportioned to the wards as follows:—

	Moorside	9	/
	East	22 {	(10 of which occurred in the Union Workhouse).
	Church	-	,
90 19	Redvales	7	/ 6 1 1 1 1 1 1
	Elton	IO	(1 of which occurred in the Union Workhouse).
	Total	60	

MARRIAGES.

The total number of marriages celebrated in the Bury Union during the year 1911 was 1,308, being an increase of 33 as compared with the preceding year. The quarterly returns of the marriages solemnised in the Bury District in the year 1911 are summarised as follows:—

					Before		
Church o	f England.	Author	rised Pe	ersons.	Registra	rs.	Total.
March Quarter, 1911	113	• • •	43		73		229
June Quarter, 1911	197		79		87	• • •	363
September Quarter, 1911	246		80		106		432
December Quarter, 1911	160		50	• • •	74		284
				-			
Totals	716	2	252		340		1308
			-	_			470000

DEATHS.

During the year 1,060 deaths have been registered in the Borough, being an increase of 78, as compared with the preceding year. Of these deaths, 211 occurred in the Union Workhouse, 51 in the Dispensary Hospital, 16 in the Florence Nightingale Hospital, and five in the Robinson Kay Home.

Of the above deaths, 129 were of persons not usually resident in the Borough, 49 being from Heywood, 37 from Radcliffe, 14 from Ramsbottom, eight from Tottington, five from Whitefield, five from Bury Rural, three from Edenfield, three from Rochdale, and one each from Manchester, Leeds, Blackburn, Miles Platting, and Haslingden.

By excluding these 129 deaths of non-residents, the total number of deaths is reduced to 931, to which must be added the 23 deaths of Bury residents who have died in other towns. The corrected number of deaths of Bury residents is thus brought to 954, which is more by 86 than the previous year, and is nine below the mean number for the ten years 1901-1910.

The death rate is equal to 16.26 per 1,000, as compared with a rate of 14.61 per 1,000 in the previous year, and compares favourably with the rate (16.4 per 1,000) for the 77 great towns of England and Wales.

The increase in the death rate is due chiefly to the increased number of deaths from Respiratory diseases and Diarrhæa. The latter was caused by the extremely hot and dry summer, and is not confined to Bury. The death rate from Diarrhæa shows a corresponding increase all over the country.

The lowest death rates are recorded in Redvales Ward (11.60) and Elton Ward (13.83), whilst the highest death rates, as may be expected, were in the most densely populated parts of the Borough, namely: Church Ward (21.14), East Ward (19.14), and Moorside Ward (16.95).

The following table shows the natural increase of the population, *i.e.*, the excess of births over deaths during the past 20 years (1892-1911):—

Year.	Births.	Deaths.	Natural Increase.
1892	1617	1202	415
1893	1488	1287	201
1894	1507	1077	430
1895	1710	1414	296
1896	1454	1162	292
1897	1520	1099	421
1898	1483	1057	426
1899	1439	1061	378
1900	1390	1108	282
1901	1272	975	297
1902	1214	955	259
1903	1329	1030	299
1904	1383	1003	380
1905	1271	964	307
1906	1336	1001	335
1907	1336	939	397
1908	1377	989	438
1909	1226	965	261
1910	1235	868	367
1911	1190	954	236
Total	27777	21060	6717

District Mortality Rates.—The following table shows clearly the difference as regards the mortality rates in the various Wards:—

Population, Acreage, and Death Rates in the Various Wards.

					Mortality per 1000 Living.							
WARD.	Estim'ted Popula- tion to middle of 1911.	Acreage.	Persons per Acre.	Total Deaths			Rate per Se		Phthisis.	Other Tuberculous Diseases.	Other Respiratory Diseases.	Cancer.
Moorside	14209	1534	9.26	241	16.95	1.90	1.05	0.77	2.60	1.19		
East	12699	786	16.16	248	19.53	3.07	1.02	0.39	4.25	0.95		
Church	6907	253	27.30	146	21.14	1:74	2.46	0.43	3.62	0.72		
Redvales	11035	1221	9.03	128	11.60	0.63	0.27	0.27	1.81	0.63		
Elton	13815	2042	6.76	191	13.83	0.72	0.65	0.29	2.53	0.36		
Totals	58665	5836	10.05	954	16.26	2.18	0.97	0.44	2.91	0.78		

^{*}Deaths occurring in Public Institutions have been relegated to the Ward to which the person belonged; deaths within the Borough of persons usually resident outside are here excluded, and correction is made for persons dying without the Borough, but usually resident within. It will be observed from the above table that the highest death rates, as in previous years, are recorded in Church and East Wards, which are the most densely-populated districts.

17

Causes of, and Ages at Death during the Year 1911.

Course of Double	Nett Deaths at the subjoined Ages of Residents, whether occurring within or without the District.								s whether of Non-residents ions in the	
Causes of Death.	All ages.	Under 1 year.	l and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and under 65.	65 and upwards.	19 7 1
$\left\{ ext{Causes} \right\} egin{array}{l} ext{Certified} & \dots \ ext{Uncertified} & \dots \end{array}$	$932 \\ 22$	195 5	56	49	28 1	39	$\begin{vmatrix} 104 \\ 2 \end{vmatrix}$	219	242 11	281
Enteric Fever Smallpox Measles Scarlet Fever Whooping Cough Diphtheria and Croup Influenza Erysipelas	26 10 12 5 8	3 1 4 2	14	8 5 2 5	1 4	1	•••	3		2 4 8 1 4 3
Cerebro-Spinal Fever Phthisis (Pulmonary Tuberculosis) Tuberculous Meningitis OtherTuberculousDiseases Rheumatic Fever Cancer, Malignant Disease Bronchitis Broncho-Pneumonia Pneumonia (other forms)	5 46 84 33 39	 4 2 15 14 4	1 2 4 10 4	2 3 2 3 5	3 2 5 1 	11 1 2 3	23 2 6 2 1 8	18 1 2 1 26 25 3 10	2 1 1 14 34 2	10 1 8 1 11 21 3 8
Other Diseases of Respiratory Organs Diarrhœa and Enteritis Appendicitis and Typhlitis Alcoholism Cirrhosis of Liver	$\begin{array}{c} 15 \\ 65 \end{array}$	1 45 	7	5 1	1 2 		$\begin{array}{c c} 4\\1\\3\\1\\1\end{array}$	3 1 1 3	5 5 ··· 2	$egin{array}{c} 1 \\ 4 \\ 7 \\ \ddots \\ 2 \end{array}$
Nephritis and Bright's Disease Puerperal Fever Other accidents & Diseases		• •	• •	• •	• •	1 1	$\begin{bmatrix} 2 \\ 2 \end{bmatrix}$	6	6	4 1
of Pregnancy and Parturition	7	1		• •	• •	1	4	1	• •	2
Premature Birth Violent Deaths, excluding	70	68	• •				1	1		6
Suicides	$\begin{array}{c} 35 \\ 7 \\ 253 \end{array}$	21	6	3 3	2 5	$\begin{vmatrix} 1 \\ \vdots \\ 12 \end{vmatrix}$	9 2 33	9 4 95	11 1 78	17 2 81
Unknown	117	15	2	2	1	1	guard.	9	86	71
	954	200	56	49	29	39	106	222	2 53	283

INFANT MORTALITY, 1911.

Nett Deaths from stated causes at various Ages under One Year of Age.

CAUSE OF DEATH.	Under l week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 1 month.	1-3 Months.	3-6 Months.	6-9 Months.	9-12 Months.	Total Deaths under l year.
All Causes $\left\{ egin{array}{ll} \text{Certified} & \dots & \dots \\ \text{Uncertified} & \dots & \dots \end{array} \right.$	37	8	5	7	57 3	45	33 1	38	22	195 5
Smallpox Chicken-pox Measles Scarlet Fever Diphtheria and Croup Whooping Cough Diarrhœa Enteritis Tuberculous Meningitis Abdominal Tuberculosis Other Tuberculous Diseases Congenital Malformations Premature Birth Atrophy, Debility & Marasmus Atelectasis Injury at Birth Erysipelas Syphilis Rickets Meningitis (not Tuberculous) Convulsions Gastritis Laryngitis Bronchitis Pneumonia (all forms) Suffocation, overlying Other Causes		1 			2 2 29 9 3 2 3 2 7	13	1 6 · · · · · · · · · · · · · · · · · ·	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	1 5	3 1 · 4 45 · 2 35 31 3 2 · 2 11 3 · 15 18 · 17 - 200

Nett Births in the year $\left.\right\}$ Legitimate.. 1130 Illegitimate .. 60

Nett Deaths in the year \ \ \text{Legitimate Infants \ ... 183 \ Illegitimate Infants \ ... 17

Vital Statistics of Whole District During 1911 and previous Years.

BAR Population estimated corrected each Year. Un- each Year. Number. Number. Number. 58744 1336 59064 1377 59234 1226 59409 1235		TOTAL DEATHS	[-	Transfer-	I	THE DISTRICT.	or.
	Nett.	DISTRICT.	Deaths of Non-	able Deaths of Residents	Under 1 Year of Age.	ar	At all Ages.
58744 1336 58901 1336 59064 1377 59234 1226 59409 1235	Rate	Number Rate	registered in the District.	registered in the District.	Number. Bi	Rate per 1000 nu nett Births.	Number Rate.
58901 1336 59064 1377 59234 1226 59409 1235	*22.74	1084 18·40	0 109	26	*236 *1	*177 10	1001 17.04
59064 1377 59284 1226 59409 1235	*22.68	1034 17.55	2 108	13	*181 *1	*135	$939 \mid 15.94$
59234 1226 59409 1235	*23.31	1056 17.87	130	13	*178 *1	*129	939 15.89
59409 1235	*20.61	1063 17.94	115	17	*156 *1	*129	$965 \mid 16.29$
	*20.79	982 16.53	3 124	10	*154 *1	*124	868 14·61
1911 58665 1204 1190	90 50.28	1060 18.07	7 129	25	200	168	954 16.26

Area of District in acres (exclusive of area) 5836. N

* Uncorrected.

Vital Statistics of Separate Localities in 1911 and Previous Years.

	dw)	BURY (whole district).	,Y strict).			-	92	SUB-I	SUB-REGISTRATION	RATI		OIST	DISTRICTS.			
		-			Z	TORTH	H		<i>3</i> Ω	HLOS	H.		A	LTON	Z.	
YEAR.	Population estimated to middle of each year.	Births Registered.	Deaths at all ages.	Deaths under I year.	Population estimated to middle of each year.	Births Registered.	Deaths at all ages.	Deaths under I year.	Population estimated to middle of each year.	Births Registered.	Deaths at all ages.	Deaths under Lyear.	Population estimated to middle of each year.	Births Registered.	Deaths at all ages.	Deaths under 1 year.
1061	80	1272	<u></u>	213	26224	580	1	66	782	9	∞	56	14004	(N)		58
90	818	1214	955	156	9	9	\circ	20	785	70	300	46	14033	0	ಐ	40
<u>O</u>		1329	10	9	634		4	101	790	0	S	74	40	_	9	99
90	∞	1383	1003	226	26405	4	\mathfrak{A}	-	794	0	9	99	40	9	3	49
\circ	58594	12		184	26468	$\overline{}$	70	66	799	00		49	413	1	0	36
90	∞	133	1001	3	26536		9	105	803	∞	9	85	417	\circ	0	49
90	∞	1336	939	181	26607	614	439	84	18085	413	294	49	Ō		0	48
1908	90	[-	939	[-	26681		O	98	813	1		50	424	9	0	42
606-	59234	\mathcal{O}	9	70	26757	0	70	74	818	00	-	46	499	4	6	39
1910	59409	1235	898	10	26835	595	0	78	824	α	∞	41	433	302	172	35
Averages of $\begin{cases} \text{Years} \\ \text{Years} \\ 1901 \text{ to } 1910 \end{cases}$	58694	1297	696	191	26515	609	443	06	18020	380	308	55	14158	308	212	45
1911	58665	1190	954	200	80697	564	489	116	17942	344	274	47	13815	282	191	37

	Mortality at Diffe	erent Aş	ge Periods.—Of the 954 deaths:—	
200	occurred in childs	ren unde	ler one year of age 20.96 per cen	t.
56	occurred between	the age	es of 1 and 2 years 5.87 ,,	
49	, ,	,,	2 and 5 years 5.14 ,,	
30	, ,	, ,	5 and 15 years 3.14 ,,	
38	, ,	,,	15 and 25 years 3.98 ,,	
106	, ,	,,	25 and 45 years 11.11 ,,	
223	, ,	, ,	45 and 65 years 23.38 ,,	
252	occurred in perso	ons over	er 65 years of age 26.42 ,,	
			100.00	

Infectious Diseases (including Influenza).—The percentage of deaths from the infectious diseases (13.52) is 5.46 per cent. higher than in the preceding year. This increase is due chiefly to the increased number of deaths from Diarrhæa. As will be seen on reference to the appended table, the percentage of deaths from these diseases is, with one exception, the highst recorded during the past nine years:—

Percentage... 12.04 14.05 9.23 11.59 9.09 9.09 7.25 8.06 13.52

Diseases of the Respiratory System (excluding Phthisis):—171 deaths have been attributed to various diseases of the respiratory organs, which is an increase of 36 deaths as compared with the preceding year.

Of these deaths, 84 (or 49.71 per cent. of the total 171) were attributed to Bronchitis, being an increase of seven deaths, as compared with the number (77) in the preceding year. The following table shows the age periods at which deaths from Bronchitis were recorded:—

Under 1. under 2. under 5. under 15. under 25. under 45. under 65. 65 upwards.

15 ... 4 ... 2 ... — ... 2 ... 2 ... 25 ... 34

Pneumonia caused 72 deaths, as compared with 56 deaths in the previous year. Of this number, 33 cases were due to Broncho Pneumonia and 39 to other forms. The following table shows the ward distribution and the age periods at which these deaths were recorded:—

Wards.	Under 1.		2 and under 5		15 and under 25			65 and up-wards	Totals.
Moorside	7	5	1	2		2		1	18
East	6	4	2		2	1	6	1	22
Church	2	3	3			1	1	1	11
Redvales	2				1	1	4	2	10
Elton	1	2	2			4	2		11
Totals	18	14	8	2	3	9	13	5	72

Phthisis caused 57 deaths, making a total of 228 deaths from respiratory diseases, as compared with 208 deaths in the previous year.

Deaths from Respiratory Diseases in each of the preceding ten years:—

	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910
Bronchitis	86	93	99	118	90	93	100	75	117	77
Pneumonia	85	89	93	56	75	59	58	66	104	56
Oth'r Respirat'ry									,	
Diseases	11	2	12	8	15	8	7	7	7	2
Phthisis	85	75	69	97	73	74	66	63	71	73
Totals	267	259	273	279	253	234	231	211	299	208
				. 1						

LONGEVITY.

Deaths of Persons over 60 Years of age.—The deaths of persons over 60 years of age were equal to 33.65 of the total deaths, as compared with 35.37 per cent. in the preceding year.

The number of deaths attributed to **old age** was 92, a decrease of 6 as compared with the previous year. The following table gives the number of deaths attributed to Old Age, and the percentage to the total number of deaths; also a comparison with each of the ten preceding years:—

YEAR.	1901	1902	1903	1904	1905	1906	190 7	1908	1909	1910	1911
No. of Deaths	109	74	79	73	72	66	77	72	94	98	92
Per cent. of Total Deaths 1	10.21	7.64	7.67	$7 \cdot 27$	7.48	6.59	8.20	7.60	9.74	11.29	9.64

INQUESTS DURING THE YEAR 1911.

During the year the causes of death of 81 Bury residents were investigated by the District Coroner (Mr. S. F. Butcher). In 59 instances it was found advisable to hold an inquest, and of this number 39 related to the bodies of males and 20 to the bodies of females. In 22 cases a public enquiry was dispensed with.

The following is a classification of the sex and age periods:—

	Males	Females
Under one year of age	I	I
Over one and under two years of age .	—	• • •
Over two and under five years of age	3	
Over five and under 15 years of age	—	2
Over 15 and under 25 years of age	. I	2
Over 25 and under 45 years of age	IO	2
Over 45 and under 65 years of age	14	8
Over 65 years of age	10	5
Total	39	20
	-	

The verdicts of the Coroner's Juries, and the wards to which the deceased belonged, are shown in the table:—

	Mo	orsid	le	East	Church	$R\epsilon$	edvale	es	Elton
Natural Causes		7		3			4		4
Accident		8		5	3		6	• • •	7
Suicide		4		2			I		I
Found drowned		I			—		I		2

UNCERTIFIED DEATHS.

The number of uncertified deaths (i.e., deaths which had not been certified by a medical man, or cases in which the Coroner considered an inquest unnecessary) was 22, twelve being of males and ten of females.

The following shows the age periods, and the wards to which the deceased belonged:—

	Ages o-1	1-2	2-5	5-15 15-25	25-45 45-	65 65 Upwards
Moorside .	. I			ı —	I	2 2
East	4				— –	- 4
Church	. —					I I
Redvales .	•	—			I	— 3
Elton	. —		• • •		—	I

Annual Rate of Mortality compared with other Towns.

The following table compares the Birth Rate and certain Death Rates of Bury with other manufacturing towns:—

										1
TOWN.	Estimated Population.	Birth Rate per 1000.	Death Rate per 1000.	Zymotic Death Rate per 1000.	Phthisis Death Rate per 1000.	Other Tubercu- lous Diseases Rate per 1000	Cancer Death Rate per 1000.	Other Respira- tory Diseases.	Diarrhœa Death Rate per 1000.	Infant Mortality per 1000 Births.
Accrington	45075	17.57	15.77	1.97	0.84	0.28	1.06	2.66		180
Asht'n-u-Lyne	45179	23.0	17.2	2.5	1.3	0.2	0.9	2.6	1.6	193
Blackburn	133160	21.4	16.1	$2 \cdot 3$					1.56	186
Bolton	181202	$22 \cdot 9$	16.3		1.03	0.36		2.74	1.53	160
Bootle	70100	30.2	18.3	2.9	1.3	0.4	1.04	3.9	2.0	145
Burnley	106569	23.2	18.1	3.6	1.04	0.4	0.77	3.25	2.42	210
Bury	58665	20.28	16.26	2.18	0.97	0.44	0.78	2.91	1.11	168
Crewe	45042	22.9	13.6	2.13	0.75	0.51	0.84	1.99	1.59	162
Darwen	40398	18.71	15.87	1.51	0.84	0.15	0.84	2.52	0.84	153
Eccles	42200	$22 \cdot 2$	13.7	1.7	1.01	0.10	1.09	1.7	1.2	115
Halifax	101556	18.3	15.3	1.4	0.92	0.35	1.1	2.5	0.68	123
Lancaster	41400	20.14	13.06	1.06	1.27	0.41	0.91	1.98		100
Oldham	147751	$24 \cdot 4$	18.2	2.5	1.2			3.2	1.8	159
Radcliffe	26100	18.5	16.4	2.6	0.8	0.2	0.7	3.0	1.6	181
Ramsbottom	15200	17.8	13.68	1.44	1.12	0.32	1.05	1.97	0.65	140
Rotherham	62500	28.85	16.63	3.15	0.83	0.41	0.81	2.71	1.74	161
St. Helens	96870	33.51	18.30	3.03	1.01	0.66	0.64	3.54	1.47	158
Stockport	109090	23.33	17.38	2.73	1.35	0.53	1.06	2.98	2.05	172
Wallasey	79000	$22 \cdot 1$	12.6	1.3	1.0	0.4	1.09	1.9	2.6	109
Warrington .	72375	28.1	15.7	2.8	1.46	0.63	0.17	2.6	1.9	147
Whitefield	6980	20.7	13.4	1.4	0.7	0.50	0.28	2.7	1.7	151
Wigan	89631	27.05	18.27	3.91	0.72	0.74	0.53	4.02	2.26	193
	Sales.									
							1		1	

^{*} Corrected for Public Institutions,

INFANT MORTALITY.

Number of Births during the year 1,	190
Number of deaths of children under one year of age	200
Infant Mortality	168

The Infant Mortality for the year 1911 is the highest recorded for the Borough since 1906, being 44 per 1,000 births higher than the previous year and 21 above the mean rate for the ten preceding years. The heavy mortality amongst infants is one of the most unsatisfactory features of the year's work. Undoubtedly the very hot summer, with the consequent prevalence of summer diarrhæa, was largely responsible for the increased mortality. No fewer than forty-five deaths of infants under one year of age were attributed to diarrhæa, as compared with 19 deaths in the previous year. It is, however, pleasing to record that the number of deaths from common infectious ailments, e.g., Measles, Whooping Cough, &c., is not above the average of previous years.

During the summer months of the year special visits were paid by the Health Visitor to the homes of the babies, who were being bottle-fed, in order to advise mothers where necessary on the feeding and care of their infants during this period of the year. In addition close attention was also given to scavenging, and the frequent removal of household refuse, as the latter branch of work bears an important part in the prevention of summer Diarrhæa.

It will be seen from a reference to page 29 that the number of bottle-fed children was increased as compared with the previous year. This fact is very much to be regretted, and, in my opinion, is due in a great measure to the improvement through which the cotton trade is at present passing.

On reference to the appended table, it will be seen that 40 deaths (or 20 per cent.) occurred during the first week after birth, and 60 (or 30 per cent.) occurred during the first month.

Deaths from Zymotic diseases show an increase as compared with the previous years, viz.: 53 deaths in 1911, 24 in 1910, 22 in 1909, and 23 in 1908.

Deaths from Respiratory diseases show an increase of 21 as compared with the previous year, 15 being due to Bronchitis, 18 to Pneumonia, and one to other diseases of the respiratory organs.

The following table shows the number of deaths of infants per 1,000 births in Bury during the past eleven years:—

1001	1002	1003	1001	T005	1006	* 00 m	1008	1000	1010	Average 10 years	
1901	1902	1903	1904	1905	1900	1907	1900	1909	1910	10 years	1911
166	128	174	163	146	177	135	129	129	124	147	168

Infant Mortality for the whole of England and	
Wales (1911)	130
For the 77 Great Towns	140
For the 136 Smaller Towns	133
For England and Wales (less the 213 towns)	118
For Bury	168

From the list below it will be observed that as regards Infant Mortality Bury compares favourably with other Lancashire towns.

Infant Mortalities.—Chief Lancashire Towns:—

Accrington	180	Darwen	153
Ashton-under-Lyne.	193	Oldham	159
Blackburn	186	Rochdale	139
Bolton	160	St. Helens	158
Bootle	145	Warrington	147
Burnley	210	Wigan	193
Bury	168		

Causes of Death.—Zymotic Diseases have caused 53 deaths, three being due to Measles, 45 to Diarrhæa, four to Whooping Cough, and one to Scarlet Fever. The chief increase is shown in the number of deaths from Diarrhæa (26 more than in the year

1910). The number of infant deaths from Diarrhœa during the last nine years in Bury is apportioned as follows:—45 in 1911, 19 in 1910, 12 in 1909, 20 in 1908, 11 in 1907, 43 in 1906, 33 in 1905, 32 in 1904, and 38 in 1903.

Respiratory Diseases.—These were responsible for 34 deaths (as compared with 13 deaths in 1910), and of these 15 were due to Bronchitis, 18 to Pneumonia, and one to other diseases of the respiratory organs.

Tuberculous Diseases.—The Tuberculous diseases show a slight decrease. The number of deaths was six, as compared with seven deaths in 1910, four in 1909, nine in 1908, seven in 1907, and 11 in 1906.

Remaining Causes.—The chief remaining causes of death were:—

Premature Birth	35
Convulsions	ΙI
Atrophy and Debility	31
Congenital Defects	2

An analysis of the deaths at the various age periods is given on page 18.

Inquests.—During the year the Coroner (Mr. S. F. Butcher) enquired into the cause of death in two instances (one male and one female), the ages of the children being one day and eleven weeks respectively. The causes of death were returned as follows:

—"Natural Causes," 2.

Uncertified Deaths.—In five instances the Coroner deemed the holding of an inquest unnecessary, the cause of death in each case being returned as due to "Natural Causes."

Illegitimacy.—5.0 per cent. of the total births were illegitimate, and of the total deaths of children under one year of age 8.5 were of illegitimate children, as compared with 9.1 per cent. in 1910. The infant mortality among legitimate children was 154 per 1,000 births, whereas among illegitimate children it was 283 per 1,000 births.

Occupation of Mother.—Of the mothers of the 200 fatal cases:—

77 were occupied only with house duties (38.50 per cent.).

123 were engaged as either mill workers or otherwise employed away from home (61.50 per cent.).

In 1910 the percentage of mill workers was 58.49, and of home workers 41.51.

The following table shows the increase in the number of the mothers of fatal cases who are employed outside the home:—

						Mothers				
Year	Deaths	Infa	nt Morta	ality	(a) Ou	tside Home	(b)	At Hon	ne	Doubtful
1901	 213		166		60	(28%)		117		36
1902	 156		128		4 I	(26%)		106		9
1903	 231		174		76	(33%)		135		20
1904	 226		163		71	(31%)		128		27
1905	 184		146		71	(38%)		113		
1906	 236		177		139	(59%)		97		
1907	 181		135		25	(62%)		56		
1908	 178		129		63	(35%)		115		
1909	 159		129		93	(58%)		66		-
1910	 154		124		100	(58%)		54		
1911	 200		168		123	(61%)		77		

Insurance.—75, or 37.50 per cent., of the infants who died were insured, as compared with 37.00 per cent. in the year 1910.

Influence of Feeding on Infant Mortality.—During the year Nurse Walton has obtained information as to the method of feeding of 1,104 of the 1,190 infants born. Of these:

```
631 were breast-fed, amongst which were 10 deaths, i.e., 1.58% 296, bottle-fed ,, ,, 84 ,, ,, 28.38% 162, breast and bottle-fed ,, I ,, ,, 0.62% 15 ,, spoon-fed ,, 12 ,, ,, 80.00% 38 died within 24 hours of birth.
```

Importance of Feeding.—From the above table the paramount importance of breast-feeding is forcibly illustrated, as showing that the death-rate amongst bottle-fed babies is more than 17 times that of breast-fed babies.

District Mortality.

					Deaths per 1000 births
Bury North	{ Moorside Ward East Ward	54 62	 279 285		193 217
Bury South	Church Ward Redvales Ward	29 18	 160 184	• • •	181
Elton Ward		37	 282		131
Who	ole Borough	200	1,190		168

NOTIFICATION OF BIRTHS ACT, 1907.

The above Act was adopted at a meeting of the Town Council held on February 8th, 1908, and the consent of the Local Government Board having been obtained, came into operation on April 8th.

Under the Notification of Births Act of 1907, 1,099 births were notified, 940 being notified by midwives, 126 by medical practitioners, and 33 by parents or other persons. Of the total number of births notified, 39 were returned as being "still-born," of which 32 were notified by midwives, six by medical practitioners, and one was notified by the parent.

The effect of the above measure cannot but tend to have a beneficial effect from a health point of view. Especially is this the case with regard to the feeding and care of infants, as the Lady Inspector is thus able at an earlier stage, where necessary, to give such information with regard to feeding, &c., as may be desired.

When one considers the high mortality which has annually taken place amongst infants in Bury, I am optimistic enough to hope that the adoption of the above measure will prove to be an important factor in reducing this mortality in the future.

In conclusion, I have pleasure in recording my appreciation of the valuable assistance which has been rendered, especially by the medical practitioners and midwives of the Borough, to the Health Department, by the promptitude with which the notifications have been made, thus tending towards the efficient and satisfactory working of this Act.

NOTIFICATION OF INFECTIOUS DISEASES.

A. INFECTIOUS DISEASES NOTIFICATION ACT, 1899.

Number	of	cases	 	 	 	 	 357
Number	of	deaths	 	 	 	 	 18

During the year 1911 the cases notified under the Infectious Diseases Notification Act number 357, or 19 less than the average for the preceding ten years. With regard to Scarlet Fever, there was a decrease of 344 cases notified as compared with the year 1910; the number notified (220), however, is seven above the annual average for the previous ten years. The cases of Diphtheria and Membranous Croup show a reduction of 29 in the average number of notifications during the past ten years.

As compared with 1910, Scarlet Fever shows a decrease of 344, Enteric Fever an increase of seven, Erysipelas a decrease of eight, and Puerperal Fever an increase of two. The total number of deaths from the notifiable infectious diseases was 18, as compared with 33 in 1910, 15 in 1909, 21 in 1908, 23 in 1907, 20 in 1906, and 24 in 1905.

It was not found necessary to notify Chicken-pox during the year.

B. Other Infectious Diseases.—1,074 notifications (989 verified) were received from school authorities of cases of suspected Measles, Whooping Cough, &c., as compared with 589 in 1910, 989 in 1909, 653 in 1908, 730 in 1907, and 1,081 in 1906. Of these 1,074 suspected Infectious Diseases, 469 were cases of suspected Measles (434 verified). 57 Chicken-pox (54 verified), 300 Mumps (273 verified), 19 Ringworm (16 verified), and 187 Whooping Cough (175 verified).

The notified cases of Measles show an increase of 85, and Whooping Cough an increase of 187, as compared with their respective numbers in 1910. The number of deaths from Measles was 26, an increase of 18, and from Whooping Cough 12 deaths occurred, as compared with none in 1910.

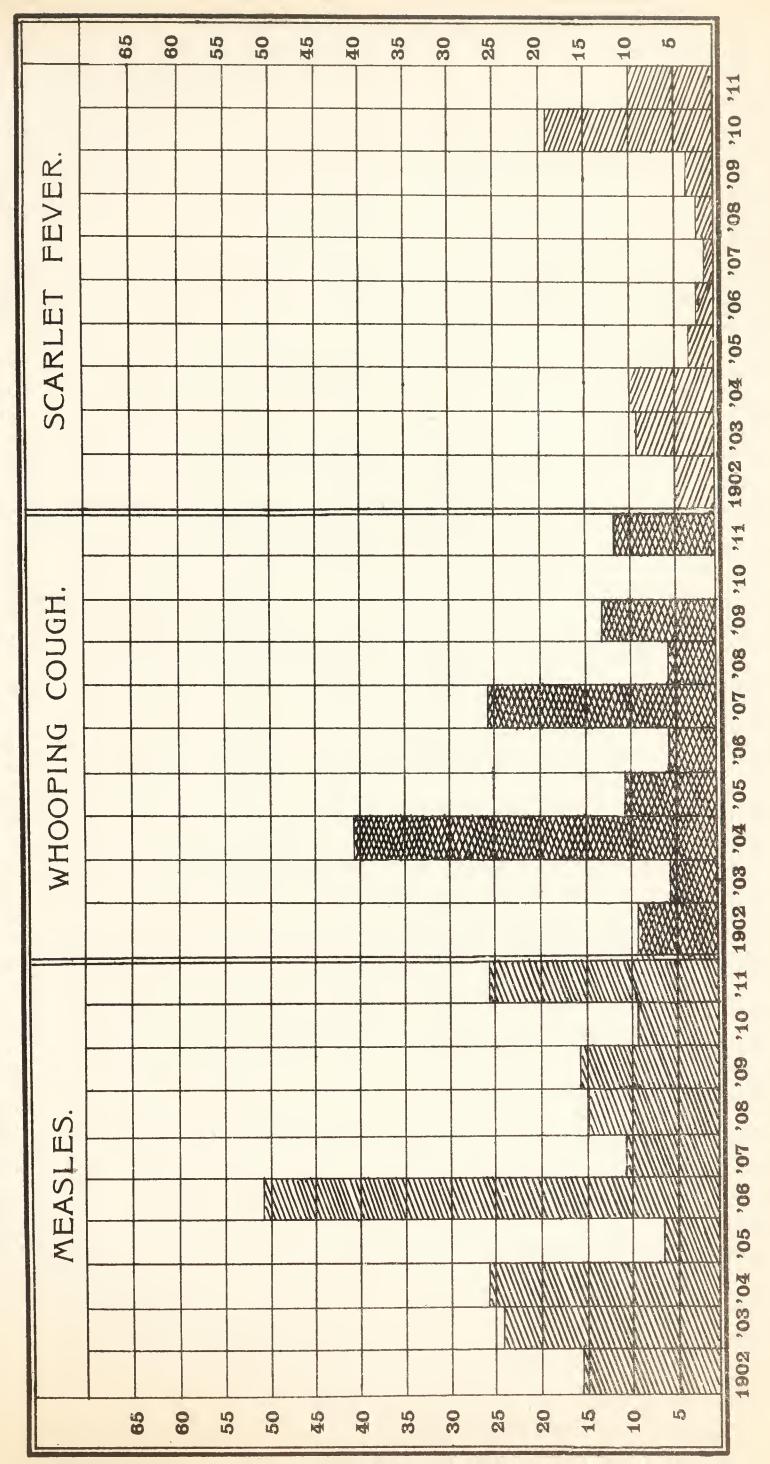
Suggestions for the Prevention of Measles.—The best administrative measures for the control of Measles may be summarised as follows:—

- A. Through Schools.—(1) By school notification. (2)
 By medical inspection of school children. (3) By
 exclusion from school of suspected children. (4)
 School closure.
- B. AT HOME.—By visits of Health Visitor and education of mothers.
- c. Generally by Popular Lectures, &c.

The advantage of school notification is to be seen in the fact that out of 1,074 such notifications received during the year, as many as 989 cases were verified as suffering from the disease. This reflects great credit upon the teachers in the Elementary Schools for their powers of observation and their concern for the welfare of the children in their charge.

It is obvious that much assistance may be given to those engaged in medical inspection by the teachers in the schools, on account of the special knowledge the latter have of the dispositions of the individual children when in health, which enables them to discern the changes which take place in incipient disease.

ATHS IN BURY DURING TEN YEARS, 1902-1911



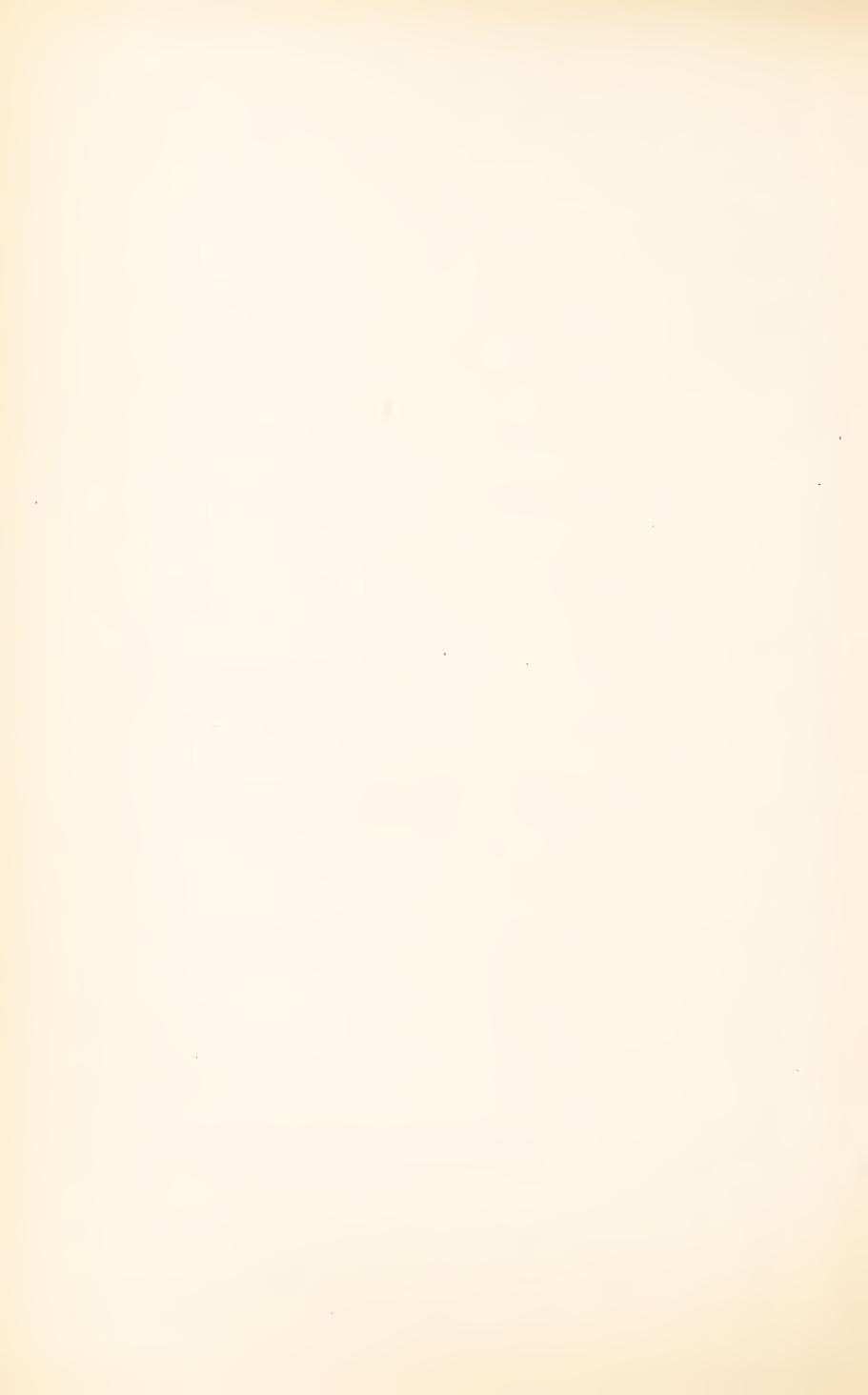


Table showing the number of cases of Infectious Disease notified from 1888 to 1911.

DISEASE.	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Smallpox	5	**		055	0.50	12	28	160	1	0.0	1.0		5	150	37	59	25	33	1	::		-:-		30
Scarlet Fever	92	42	98	255	272	359	449	160	365	262	148	236	432	179	156	156	261	197	90	40	98	389	564	220
Diphtheria and Membran'usCroup+		20	22	34	36	34	42	32	27	27	24	45	18	78	182	107	73	55	35	48	52	59	44	44
Enteric Fever	21	18	36	88	41	76	76	70	41	59	56	45	40	47	33	37	22	33	33	18	15	9	18	25
Continued Fever.		1		1	1	9	30	8	8	13	15	12	11	9	5	2	1	3	3	1	2			
Typhus Fever		1			2		10				1						7							
Cholera					1		1																	
Puerperal Fever			2	5	3	4	13	4	2	5	6	8	15	7	11	2	11	4	11		9	5	4	6
Measles§	499	22	27	360	1	1		1									1					1		
Whooping Cought		179	63	45					1		1													
Erysipelas‡											1		34	15	20	20	10	46			26	38	40	32
Chickenpox *	• •				1			• •		• •		• •				1		79	• •					
TOTALS	644	283	248	3 788	354	494	648	274	444	366	250	346	555	335	444	383	403	450	215	156	202	500	670	357

\$Not notifiable after 1891. †Made notifiable on June 26th, 1897. ‡Made notifiable on January 1st, 1900.
 * Made notifiable for six months from April 3rd, 1905.

Cases of Infectious Disease notified during the Year 1911.

													7		
Notifiable Disease.		Cases notified in whole District. Total Cases notified in each locality. At Ages—Years. Total Cases No. of Cases Removed to Hospital from each locality. District.										d from	Total Cases Remov'd		
	At all Ages	Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and up-wards.	North.	South.	Elton.	North.	South.	Elton.	to Hospit'l
Smallpox	30		1	6	10	9	4		28	1	1	28	1	1	30
Cholera															
Diphtheria (including			10	07					0 110	10	_	7.0		~	
Membranous Croup)	44		. 19	23	2 3	io	10	• •	27	12 11	5	19	6	3	28
Erysipelas	32 220	3	66	3 120	19	10	12 1	4	18 111	58	3 51	96	46	36	178
Scarlet Fever Typhus Fever												1	, 0		
Enteric Fever		• •	3	3	5	9	5		i6	2	7	14	2	6	22
Relapsing Fever															
Continued Fever									· <u>·</u>	. :					
Puerperal Fever	6		• •	• •	2	4	• •		5	1			• •		
Plague	• •	• •	• •	• •	• •			• •	• •	• •	• •	• •	* *		
TOTALS	357	3	89	155	41	4 43	22	4	205	85	67	157	55	46	258

Number of Cases of Infectious Disease Reported in each Month of the Year.

		Diphtheria & Membranous Croup.	Enteric Fever.	Continued Fever.	Puerperal Fever.	Erysip- elas.	Smallpox.
January	38	4	3			2	
February	22	3				1	• • •
March	33	2	2		1 ***	3	27
April	29	2	• • •			2	2
May	28	2				4	1
June	13	2	1		1	2	
July	10	5	2		1	1	
August	8	4					
September	5	2	8		1	2	
October	4	4	5		2	7	
November	16	11	3		1	3	
December	14	3	1			5	• • •
	ļ						
Totals	220	44	25		6	32	30

Number of Cases of Infectious Disease Notified in each Quarter of the Year 1911.

	Scarlet Fever.	Diphtheria & Membran- ous Croup.		Continued Fever.	Puerperal Fever.	Erysip- elas.	Smallpox.
QUARTER. 1st	93 70	9	5		1	6 8	27 3
3rd	$ \begin{array}{r} 23 \\ 34 \\ \hline 220 \end{array} $	11 18	$\frac{10}{9}$ $\frac{25}{}$	•••	$\begin{bmatrix} 2\\3\\\\6 \end{bmatrix}$	$ \begin{array}{r} 3 \\ 15 \\ \hline 32 \end{array} $	30

Ward Distribution of Infectious Diseases, 1911.

	Scarlet Fever.	Diphtheria & Membran- ous Croup.		Continued Fever.	Puerperal Fever.	Erysip- elas.	Smallpox.
Moorside	67	19	11	• • •		10	23
East	44	8	5	• • •	5	8	5
Church	25	9	2		1	6	• • •
Redvales	33	3	• • •			5	1
Elton	51	5	7	• • •		3	1
Totals	220	44	25	• • •	6	32	30

Cases Removed to the Florence Nightingale Hospital from the various Wards.

	Scarlet Fever.	Diphtheria & Membran- ous Croup.		Continued Fever.	Puerperal Fever,	Erysip- elas.	smallpox.
Moorside	58	12	9		• • •	• • •	23
East	38	7	5				5
Church	24	6	2		• • •	• • •	
Redvales	22					• • •	1
Elton	36	3	6	• • •		• • •	1
					<u> </u>		
Totals	178	28	22				30

^{*}Removed to Ainsworth Hospital.

SCARLET FEVER.

Number of cases notified	2	20
Number of deaths		IO
Case Mortality	4	.55%

The number of cases notified show a decrease of 344 as compared with the number (564) notified in the previous year. Of the notified cases, 163 were reported during the first six months of the year, which appeared to be the end of the epidemic which started in the autumn of 1908. The comparative immunity of the Borough previous to the last two years appears to be largely responsible for the epidemic, in that an increased number of children were thus left susceptible to the disease, whilst in the meantime others were born and added to the number.

Admission to Hospital.—Of the 220 notified cases 178, or 80.91 per cent., were removed to the Florence Nightingale Hospital.

School Closure.—None of the schools in the Borough were closed during the year on account of this disease, as in no instance was a school infection sufficiently marked to call for any other measure than exclusion of scholars.

QUARTERLY INCIDENCE.

	ıst Quart	er 2nd	. Quarte	er gro	l Quar	ter 4	th Quarter
Notifications	93		70		23		34
Deaths	7		2		I		

AGE DISTRIBUTION.

The youngest case notified was 18 days old, and the oldest 49 years.

	Under 1	1 to 5	5 to 15	15 to 2	5 25 to 45	45 to 65	Over 65	Total
Notifications.	3	. 66	. I 20	19	I I	I		220
Deaths	і .	5	. 4		—	. —		10

It will be seen from the chart on opposite page that the disease was most prevalent during the first quarter of the year, although the incidence reached a maximum in the fourth week in April. During the fourth week in July, the second week in September, and the first week in October, no cases were notified.

WARD DISTRIBUTION.

	Moorsi	de	East	Church	F	Redvales	Elton
Notifications	 67		44	 25		33	 5 I
Deaths	 2		4	 -		I	 3

The epidemic which commenced in October, 1908, was not got under control until the middle of the year under review. The total number of cases notified during the four years 1908-11 was 1,271, and the number of deaths was 37.

Throughout the course of the epidemic the disease was generally of a very mild type. One cannot but regret the recurrence of epidemics of what are usually termed preventable diseases. There can be no doubt that school life plays a very important part in the spread of Scarlet Fever and other infectious diseases. The present method of fixing teachers' salaries and payment of grants is far from satisfactory from a Public Health standpoint. Another matter to which I should like to draw attention is that of giving prizes to children for regular attendance. There must be a great tendency under the present system for children to be in attendance at school when they are not really fit.

DIPHTHERIA AND MEMBRANOUS CROUP.

Number	of	cases	notif	fied	 	 • • •	• • •	• • •	 44
Number	of	death	s		 	 			 5

Forty-four cases of Diphtheria and Membranous Croup have been notified during the year, as compared with the same number during the year 1910, 59 in 1909, 52 in 1908, 48 in 1907, 35 in 1906, 55 in 1905, 73 in 1904, 107 in 1903, and 182 in 1902.

Five deaths have been recorded, representing a mortality rate of 0.09 per 1,000, as compared with eight deaths and a rate of 0.13 per 1,000 in the preceding year.

CHART SHEWING THE NUMBER OF CASES OF SCARLET FEVER NOTIFIED DURING EACH WEEK OF THE YEAR 1911.

	52							
43	1					•		2000ds
Dec.	49 50 51						100000000	
	90							
	47							
Nov.	46							
2	13							
†	44 45			-		F	0200000000	
	43		-			-		
	25 25 25			_				
Oct.	1						-	
9	40		-	-			 	880000
	4			-				*
تد	88		-	-			-	
Sept.	88			-			8	
S	37		-					
	*		-				ļ	. 10
	155		-					
	75		ļ					
Aug.	爲							
	EN EN							
	31							
	8							
	24					-		
July.	28 29							
	78							
	26 27							
	S							
نه	24 25							
June.	25		+					
. و	22		+					
•	64		+				\$88888	
	9		+	_		***		
May.	63		+	-		***		
3	88		+	_				
			+					
	- 02				8886			
April.	=		-	-				
d			-					
NGC,	15							100000
	22					- 3000000000		
March.	10 11 12 15 14 15 16 17 18 19 20							
70	=		-					
CO SE	9							
	-							
	00							
Feb.	7							
Fe	9							
	co.							
	15							
Jan.	ю							
2	64							
	-				8			
			-) D		*******
			20	5	7	2	10	
ī								
MONTH.	WEEK.							
05	V E							
at .								



Of the 44 cases, 28 were removed to the Florence Nightingale Hospital. The admissions to hospital constitute 63.63 per cent. of the total cases notified, as compared with 56.80 per cent. in 1910, 61.02 in 1909, 51.92 per cent. in 1908, and 58.33 per cent. in 1907.

Of the 28 cases admitted to the hospital, two, or 7.14 per cent., proved fatal. Of the 16 cases treated at home three, or 18.75 per cent., died.

MONTHLY INCIDENCE.

Jan.	Feb.	Mar.	April.	May	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
4	3	2	2	2	2	5	4	2	4	ΙI	3	44

QUARTERLY INCIDENCE.

	rst	Quart	er. 2n	d Quar	ter. 3r	d Qua	rter. 4t	th Qua	rter.	Total.
Cases	• • •	9		6		ΙI		18		44
Deaths		Ι				2		2		5

WARD DISTRIBUTION.

	Moorsi	de.	East.	(Churc	h.	Redva	ales.	Elton	1.	Total.
Cases	19		8		9		3		5		44
Deaths			3		I				1		5
Removed to hospi	tal 12		7		6			• • •	3		28

NOTIFICATIONS AND DEATHS AT DIFFERENT AGES.

	Under 1.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 45:	45 and under 65.	Total.
Cases	 	. 19 .	23 .	2 .	— .		44
Deaths	 —	. 5.	— .				5

ANTITOXIN.—Towards the end of last year sanction was obtained from the Council to supply the medical practitioners of the district with Antitoxin free, for patients suffering from Diphtheria within the Borough. It is gratifying to note that not only the curative but the prophylactic use of the serum is practised by medical men in the Borough, who have under their care the families whose members have been infected or exposed to infection.

In the Florence Nightingale Hospital the use of Antitoxin is a matter of routine; it is used early, in large doses, and repeated where necessary.

CASE MORTALITY IN

	1911.	1910.	1909.	1908.	1907.
Hospital cases	7.14	28.00	2.77	18.51	 25.0
Home treated cases	18.75	5.26	17.39	20.0	 15.0

ENTERIC FEVER.

Cases notified	 	 	 	 	 	25
Deaths	 	 	 	 	 	0

Notifications of twenty-five cases of Enteric Fever were received at the Health Office during the year, as compared with eighteen cases in the preceding year. The following are the number of cases which have been notified during the last ten years:—

Of the twenty-five cases, twenty-two were removed to the Florence Nightingale Hospital. None of the notified cases proved fatal.

The monthly incidence was as follows:—

AGE PERIODS.

	1	Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	Over 65.	Tot'l
Notifications			3	3	5	9	5		25

WARD DISTRIBUTION.

		\mathbf{M}	oorsid	e.	East.	C	hurch	. R	edval	es.	Elton.	-	Γotal.
Notifications	 		ΙI		5		2		0		7		25

SEX INCIDENCE.—Of the cases notified, there were fifteen males and ten females.

Sanitary Condition of Infected Property.—The general sanitary conditions of the dwellings and surroundings of the 25 cases are summarised in the table on pages 40 and 41.

From this table it will be seen that one case occurred in a public institution (Bury Infirmary), and that of the 24 houses infected,

- 11 were provided with privy middens.
 - I with a pail closet.
 - 6 with waste-water closets.
- 6 with fresh-water closets.

Bacteriological Tests.—Specimens of blood of 25 cases of suspected Typhoid Fever were sent to the Public Health Laboratory, Manchester, with the following results:—

Ten gave positive results to Widal's test. Fifteen gave negative results.

Water Supply.—The water supply was directly from the public service, with the exception of one case, in which it was obtained from a private spring, and in no case was there any evidence of pollution.

MILK SUPPLY.—In no case was infection by this channel discovered.

Shellfish.—In no case was there a history of cockles, mussels, or oysters having been eaten previous to the onset of the disease.

Preventive Measures.—These, for some years now, have consisted generally in (i.) Isolation (a) at home, or (b) in hospital. (ii.) Disinfection or destruction of stools. In the case of patients treated at home, special pails are supplied by the Health Department for the reception of the excreta of patients. The pails are removed frequently and their contents burnt at the destructor. (iii.) Thorough disinfection of house, bedding, &c. (iv.) Disinfection of sanitary conveniences attached to the infected houses. (v.) Examination of drains, and defects if found, are remedied. (vi.) Conversion of midden ashpits, where these exist in connection with infected houses, to the water-carriage system. The last remedy is, in my opinion, a most important one in the prevention of the future spread of the disease. (vii.) The possibility of individuals acting as "carriers" of the infection is kept in mind. As these individuals may be an active source of infection to others, without themselves actually suffering from the disease, their supervision and education receive the necessary attention.

CASES OF ENTERIC FEVER.

	REMARKS.		Father had typhoid, Dec., 1910	Do.	Same block of houses as No. $2 & 3$							Had been unwell for a few weeks, returned from Blacknool fort.	night before				Stayed at St. Annes 3 weeks before
	Closet or Ashpit.	Good, emptied	every 3 months Good, emptied	every 2 months Good, emptied	every 2 months Good, emptied	every 2 months Dry ashpit,	cleared weekly	Dry ashpit,	oleated weekly	Dry ashpit, cleared weekly	Dry ashpit, cleared weekly	Ashpit cleared weekly	Dry ashpit,	dieared weekly Ashpit, cleared	weekly.	cleared weekly	Ashpit, cleared every 8 weeks
Condition of	Drains.	Good	Good	Good	Drained into	field drains Good		Good		Good	Good	Good on surface	Good order, part Good on surface	Good		Good on Sultace	Good on surface
	Yard.	Good order,	small None	None	None	Good, open, part	cobble-paved	Good, open to 4	navem't defective	Do.	Do.	Good order	Good order, part	nagged & coppled Small, well flag'd	O. 20 11 A. 20 20	Open, well hag a Good on Sullace	Good order, flag'd Good on surface
Nature of	Accommodation.	P. & A.	P. & A.	P. & A.	P. & A.	W.C.		W.C.		W.C.	W.C.	W.W.C.	W.W.C.	Pail	, 12	· ·	P. & A.
Cases in same	house or vicinity.	None	None	Case No. 2	Cases No. 2 & 3	None		None		Case No. 6	Cases No. 6 & 7	None	None	Case No. 9		Cases No. o, 7, & o	None
	Age.		9	10	25	8		92		34	34	22	32	20	(P	xo	24
	Sex	Ħ	M	Ø	M.	ĮŦ,		M.		뇬	M.	M.	M.	M.	F	<u>.</u>	H.
Į.	No O		2	೧೦	. 4	r¢)	9		7	∞	6	10	11	(7.7	13

) D. £1. £. 11.	Both families use same privy midden (next door neighbours)								Public Institution			rivy Midden.
	Dry ashpit,	Ashpit, cleared	Ashpit, cleared	Ashpit, in wet	every 10 weeks Do.	Do.	Dry ashpit,	Dry ashpit,	cleared monthly Ashpit, cleared	weekiy	Ashpit, cleared	every 8 weeks Ashpit, cleared every 8 weeks	P. & A.—Privy Ashpit or Privy Midden.
	Good	Good on surface	Good	Good	Good	Good	Good	Good	Good	•	Good on surface	Good	P. & A.—
	Good order, flag'd	Good order, paved	Good order, flag'd	passage, otner portion unpaved Good order, paved	Good order, paved	Good order, paved	Good order, part concreted	Good order, part	concreted Open, mostly	earth surface	Good order,	part paved Good order, flag'd	W.C.—Water Closet.
i	W.W.C.	P. & A.	P. & A.	P. & A.	P. & A.	P. & A.	W.W.C.	W.W.C.	W.W.C.	•	P. & A.	W.C.	W.
: -	Cases No.	0, 7, 6, % 12 None	Case No. 15	Cases No. 15 & 16	Cases No. 15. 16. & 17	Cases No.	15, 16, 17, & 18 None	Case No. 20.	None	None	None	None	W.W.C.—Waste Water Closet.
	21	44	30	49	14	11	45	∞	58	25	26	49	W.W.C.—1
	M.	전	표.	M.	M.	Ĕ	돈	Μ.	된	M.	M.	M.	
	14	15	16	17	18	19	20	21	22	23	24	25	

PUERPERAL FEVER.

Six cases of Puerperal Sepsis have been notified during the year, three of the cases proving fatal, as compared with four cases and two deaths in 1910. All the above cases were treated in their own homes.

ERYSIPELAS.

Number	of cases notified	• • • •	• • • • •	• • • • • •	 • • •	32
Number	of deaths				 	О

During the year thirty-two cases of Erysipelas were notified, being a decrease of eight cases as compared with the number (40) in the previous year. No deaths were attributed to this disease, as compared with one death in the previous year. No case was removed to the Florence Nightingale Hospital for treatment.

WARD DISTRIBUTION.

		IV	loorsid	le.	East	t.	Chur	ch.	Redva	ales.	Elto	n.	Total.	
Notifications	• • •		10		8		6		5		3		32	

QUARTERLY INCIDENCE.

	ıst	Quart	er. 2nd	l Qua	rter. 3	rd Qu	arter.	4th Qu	arter.	Total.
Notifications	 	6		8	• • •	3		15		32

AGE INCIDENCE.

	Under 1. 1 to 5.	5 to 15.	15 to 25.	25 to 45.	45 to 65.	65 up.	Total
Notifications		3	. 3	. IO	. 12	4 .	32

Sex.—As last year the incidence was greatest amongst females, 18 females and 14 males being attacked.

The regions of the body a	affected	were as	follows:—
Face			26 cases.
Legs and arms			6

The majority of the cases occurred secondarily to some neglected injury, as a cut, scratch, or bruise.

On notification of the disease to the Health Department a thorough inspection of the premises is made, this frequently bringing to notice sanitary defects which otherwise would have escaped observation,

SMALLPOX.

Age and Sex Incidence.

	ı to 5	5 to 10	ro to 1	5 15 to 25	5 25 to 35	35 to 45	45 to 60 u	60 and - 1 ipwards A	All ges
Males	. О	О	2	I	2	О	o	О	5
Females	I	О	3	10	I	·:· 5	5	O	25
Totals.	. I	0	5	ΙΙ	3	5	5	0	30

MONTHLY INCIDENCE AND WARD DISTRIBUTION.

	March	April		May
Moorside	22	I		О
East	3	I		I
Church	О	O		О
Redvales	I	o	• • • • • • • •	0
Elton	I	o		0

All the 30 cases occurred in private houses, no cases occurring in public institutions or common lodging-houses.

Vaccination.—The condition with reference to Vaccination of infected persons was:—

Unvaccinated	8
Re-vaccinated after infection	9
Vaccinated in infancy	9
Not Vaccinated until after infection	4

During the year 30 Smallpox cases have been notified after an absence of the disease for five years. The first three cases were notified on March 7th. (The particulars of vaccination, dates of notifications, &c., of all cases will be found on the chart opposite page 48.) In the first instance only two cases were notified, daughter (case mother (case 1) and enquiring at the home it was found that another daughter (case 3) was being treated by her medical attendant for a skin disease. This girl (case 3), aged 15, was unvaccinated, and was employed as a weaver in a cotton mill, where she had been engaged nine Prior to commencing work as a weaver, she was engaged in the cardroom of another local cotton mill, and it was at this mill she commenced to be ill, and was then treated by her medical attendant. Immediately I found that she was being treated for a skin disease I telephoned to the mill for the girl to be sent home (which was opposite the mill in the same street), and, on examination, found her to be suffering from Smallpox, and in about the third week of the disease. In the same weaving shed in which the girl worked were 300 operatives who must have been in contact with this unrecognised case of Smallpox.

After the removal of the three cases to the Smallpox Hospital at Ainsworth, every precaution was taken to prevent further spread of the disease by means of vaccination, re-vaccination, disinfection, &c. The owners of the mill rendered valuable assistance in the matter, not only by closing the whole of their works for them to be disinfected (including the machinery and goods), but advised their workpeople to be vaccinated or re-vaccinated.

In spite of these precautions three more cases were notified on March 13th (cases 4, 5, and 6). These were of two girls and one man, aged 18, 15, and 32 years respectively, all working at the same mill. Case 4 had been in the warehouse at the same time as case 3, but did not speak to her. Case 5 was companion to case 3, and was therefore practically in contact with her daily, and case 6 assisted her at her work. Between March 14th and April 6th, inclusive, twenty-two cases were notified, and on referring to the table it will be seen that all these cases worked at the same mill as case 3.

The outbreak was dealt with systematically, all the families in which cases occurred were put in quarantine, and as far as possible all the other operatives of the mill were kept under observation. This, of course, was a big work, but fortunately practically all the cases were from one district, and the private practitioners did their best in keeping careful eyes on their particular areas.

The probable source of the outbreak was infection from the cotton, but at the same time no direct evidence could be traced to this. It will be noted that the first case was not brought to light until more than a week after the symptoms developed; meanwhile

the sufferer was going about as usual, and coming in daily contact with two to three hundred operatives working at the same mill, apart from the people she came into contact with when outside the mill. It was, of course, urged in objection to the view that the infection was conveyed in raw cotton that the operative first attacked by the disease was a weaver, and that the probabilities were greatly against cotton retaining any infection up to the weaving stage, but when the patient began work at the weaving shed where she was found, she already had the disease, and that previously she was employed in another mill as a can-tenter, and in that capacity came in contact with the raw cotton in an atmosphere impregnated with cotton dust, and assuming there was infection in the cotton there was every liability of a susceptible person inhaling it. All the cotton the girl had to deal with came from the southern States. It may be stated here that the man who dealt directly with the cotton from the bales had only been vaccinated once, but he showed extremely good cicatrices on his arm. The infection (still assuming that it was in the cotton) was probably too attenuated to affect a vaccinated person, and it was unfortunate that a totally unvaccinated girl should have been in contact with the raw material. At the time the girl changed her employment and began weaving there were pustules all over her face. These were seen by her fellow-operatives.

On April 20th a girl, aged three years, was notified as suffering from Smallpox, but on investigation no direct source of infection could be traced, but the companion to the child's mother worked at the same weaving shed as case 3, and was therefore the probable cause of carrying the infection to this house; and on May 23rd another case was notified, a boy, aged 12 years, who had been in contact with this girl, both the children living in the same street.

All the cases made a good recovery.

Summary of Smallpox Cases notified during the year 1911.

of ry.	, 1911 Mother of case 3.	th Sister of case 3.	Cor	9th Works at the same mill as case 3.	nd Works at the same mill as case 3, also her	Wo	3th Works at the same mill as case 3.	Works at the same mill and next to case 3.	Works at the same mill as case 3.	5th ,, ,, ,,	3th ,, ,,	33	95 77 29	33 33
Date of Recovery.	May 13th, 1911	May 6th	April 12th	May 19th	May 2nd	April 12th	April 13th	66	*	April 25th	April 13th	•	6	*
Particulars of Vaccination,	Infancy.	Unvaccinated.	6	ç	March 7th, 1911	Infancy and March 15th, 1911			Infancy and March 15th, 1911	Infancy and March 16th, 1911		Infancy and March 16th, 1911		Unvaccinated
Source of Inf'ction	Case 3	•	Primary Case	Case 3	• •	66		• •	•	66		6	, , ,	
Address.	26, Maskill Street	" " " " " " " " " " " " " " " " " " " "	,, ,,	5, Canning Street	24, Charles Street	9, Massey Street	13, Geoffrey Street	34, Birch Street	15, Raven Street	21, Lucas Street	22, Regent Street	43, Hornby Street	12, Buckley Street	33
Age	45	13	15	18	15	32	55	54	22	30	25	47	44	18
Sex	됸	[년	Fi	<u>F</u>	[편	M.	<u></u> 년	<u></u>	<u>F</u>	M.	듄	뇬	<u>F</u> i	됸
Initials, Sex. Age	A.Y.	L.Y.	B.Y.	M.A.S.	P.A.	H.N.	편 된	E.B.	A.F.	R.B.	C.H.	L.S.	M.A.A	A.A.
Date of Notification.	March 7th, 1911	March 7th "	March 7th ,,	March 13th ,,	March 13th ,,	March 13th "	March 14th "	March 14th ,,	March 15th ,,	March 15th ",	March 15th "	March 15th ,,	March 16th ,,	March 16th "
lo. oV Case		63	ಣ	4	20	9	<u></u>	∞	6	10	11	12	13	14

Works at the same mill as case 3, vaccinated	is case 3.	6	Works at the same mill and had been near	is case 3.	33		•	**		mill on February	ase 3, and worked	and contact with	ï		
rks at the same mill as	Works at the same mill as case 3.	6	orks at the same mill a	Works at the same mill as case 3.	3.9	*	,		6	Contact with case 3 at mill on February 27th, 28th, and March 6th. Not been well for three weeks. Had been in the house of case 3, and worked at the same mill up to March 7th. Works at the same mill and contact with case 3 March 1st to 7th. Brother of case 27.					
Works at	Works		Works a	Works a		6		,	*	Contact 27th.	well Had been	Works 8	Brother		
May 2nd	April 13th	April 26th	May 6th	May 10th	April 13th	May 19th	April 19th	April 14th	April 15th	April 26th	April 19th	May 19th	May 23rd	33	June 20th
March 10th, 1911	Infancy	Unvaccinated	66	Infancy	*	Infancy, not	March 9th, 1911 Infancy	6	66	66	Infancy and	March 15th, 1911	March 23rd, 1911	Unvaccinated.	•
66	3.3	**	**	, 88	3.3	66	6	**	3,2	66	<u>~</u>	3.3	***	6.	6.
18, Hamilton Street	34, Bell Lane	2a, Cateaton Street	4, Charles Street	5, Swan Street	14, Albion Street	4, Linton Street	22, Fern Street	48, Ingham Street	71, Kay Street	32, Denton Street	27, Maskill Street	16a, Cateaton Street	" "	20, Deal Street	31. Deal Street
18	42	14	14	49	22	15	35	25	22	41	35	17	18	ಣ	12
듄.	편.	দ.	M.	편.	된.	Fi	Fi	전.	된	E.	드	년	M.	듄	M.
G L.	E.H.	E.H.	H.C.	A.O.	B.M.	E.F.C.	S. N.	F.H.	M.A.M.	H.S.	P.R.	J.S.	H.S.	M.P.	A.F.
March 16th ,,	March 16th ,,	March 16th ,,	March 16th "	March 16th ,,	March 16th "	March 17th ,,	March 17th ,,	March 17th ,,	March 18th "	March 19th ,,	March 22nd ,,	March 28th ,,	April 6th ,,	April 20th ,,	May 23rd ,,
15	16	17	18	19	20	21	22	23	24	25	97	27	28	59	30

Placards were posted in various parts of the Borough, and handbills, of which the following is a copy, were distributed in the affected area:—

COUNTY BOROUGH OF BURY.

SMALLPOX.—IMPORTANT NOTICE.

Owing to the renewed outbreak of Smallpox in the Borough the public are earnestly requested to avail themselves of the protection afforded by vaccination.

You may now at any time be exposed to the infection of the disease without even seeing the person who gives it to you.

Unless you have been successfully vaccinated within the last few years your only safety is to be re-vaccinated at once.

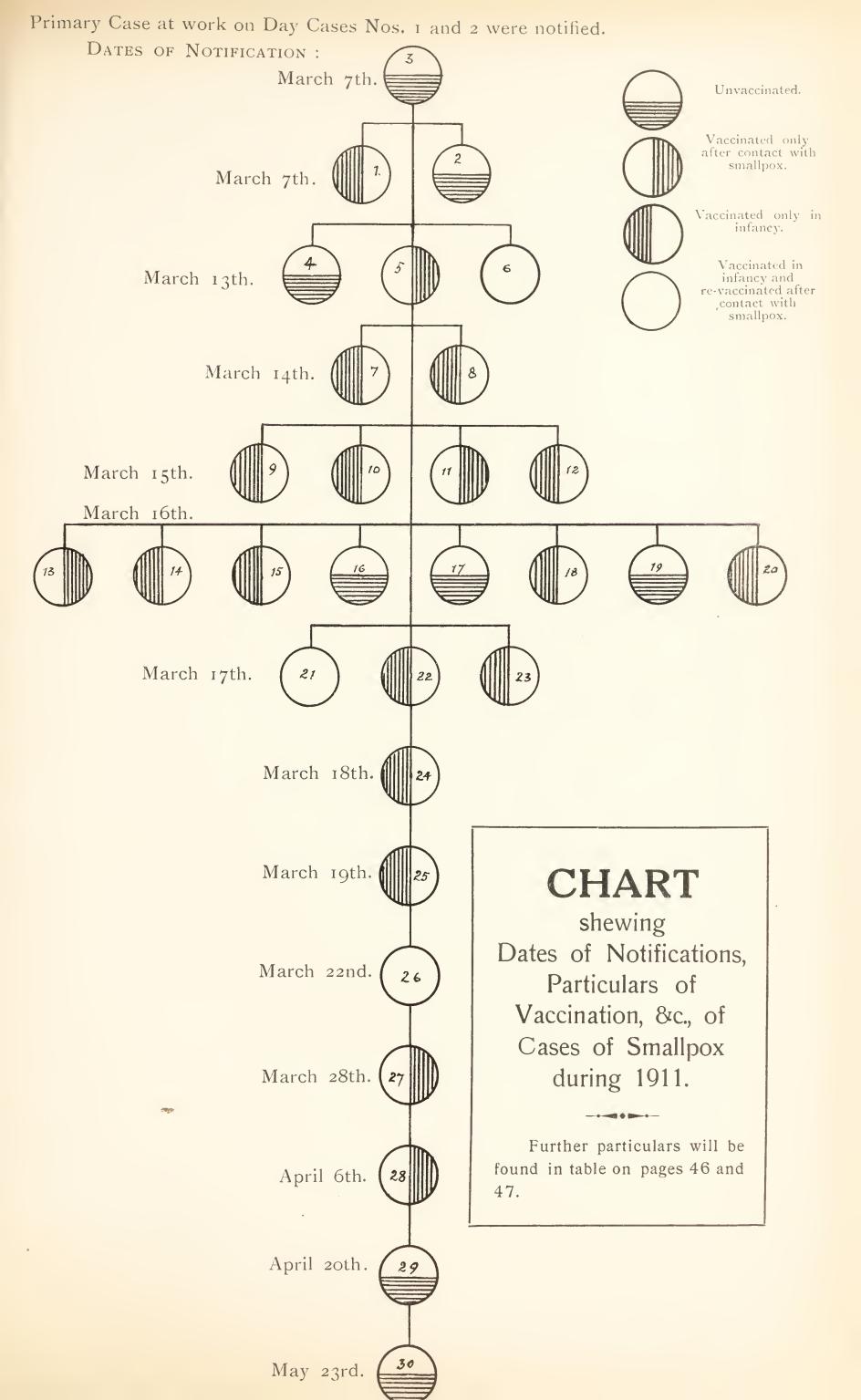
Many even who object to Vaccination admit that when once you have been exposed to the infection the only possible way to prevent your developing the disease is to be vaccinated.

If you do not need to be re-vaccinated, then the re-vaccination will not take any effect upon you. If it "takes" it shows that you needed it; and then you will be safe from the disease. You cannot find out whether you need re-vaccination or not without trying whether it takes effect upon you.

Remember! Smallpox takes 12 days before it begins to make you feel ill. If you are vaccinated before the third day of that period you are quite safe; if you leave it till the fourth day or later vaccination is quite useless.

Signs of Smallpox.

Smallpox usually begins suddenly with headache, pains in the back, vomiting, and fever. In children there may be convulsions. These symptoms are usually followed on the third day by the rash, which is first noticed on the forehead and backs of the wrists, soon spreading over the face, body, and lower extremities. This begins as small red spots about the size of a pin's head





which feel shotty under the fingers, and soon become raised. In a day or two the spots become filled with fluid, which is clear at first, then thick like "matter," and the skin around each becomes red and swollen (sometimes a rash resembling Scarlet Fever or Measles breaks out before the distinct Smallpox rash).

It is very important, therefore, that a doctor should be called in if a case shows any suspicious symptoms, especially in the case of a rash affecting the face as above. It is especially advisable that a doctor be called in to all cases considered to be Chicken Pox.

You may not mind getting the disease yourself, but please think of the danger to others; for, if you have the disease you may give it to other people, and they may consequently die.

Fresh calf lymph only is used in vaccination. The law does not allow human lymph to be made use of, therefore there is no risk of your taking any disease from it.

The public vaccinators for Bury are:—

Dr. Mellor, Bolton Road, for Elton and adjacent portion of the Borough as far as the railway.

Dr. Liddell, Walmersley Road, for the rest of the Borough.

Information as to the occurrence of suspected cases of Small-pox, or of any person who has been in contact with a real or suspected case, or whose clothing or other articles have been exposed to the infection, should be at once sent to the Health Office. The authorities at once undertake all necessary disinfection, &c., and will endeavour to ensure that no loss results from such preventative measures as are deemed desirable.

ROBERT BURNET,
Medical Officer of Health.

Public Health Office, Bury.

SMALLPOX AND VACCINATION.

Return showing the number of births, deaths (under one year), vaccinations, conscientious objections, and the number unvaccinated for the year ending August 31st, 1911:—

BOROUGH OF BURY.

D* 41.	Bury		Bury South		Elton		Total
Births	000		371	• • •	311	• • •	1282
Vaccinated	243		73		112		428
Insusceptible of Vaccination	3		I		2		6
Conscientious Obj'ct'n Certificates	242		169		142		553
Dead, Unvaccinated	80		36		24		140
Postponed by Medical Certificate	8				4		12
Removal to districts known	8		8		I		17
Removal to districts unknown	7		38		6		51
Unaccounted for	9	• • •	46		20		75

Table showing percentage of Vaccination, and also comparison with the years 1910, 1909, 1908, 1907, 1906, 1905, 1904:—

	1911 1910 1909 1908 1907 1906 1905 1904									
	1911	1910	1909	1908	1907	1906	1905	1904		
Number of Births	1,282	1,288	1,303	1,433	1,370	1,278	1,308	1,368		
Vaccinated	33'39	41.07	40.44	42.08	52.40	59.31	68.15	64.40		
Con. objection Cert's	43.14	41.77	41.51	36.14	24.89	16.66	10.63	10.03		
Unaccounted for	5.82	2 64	3.91	4'12	5 47	5.48	3.51	7 67		

From the above table it will be seen that the percentage of children Vaccinated shows a decrease of nearly 8 per cent., as compared with the previous year; whilst the percentage of objection certificates granted shows an increase of nearly 2 per cent.

SCHOOLS AND INFECTIOUS DISEASES, 1911.

During the year 1,074 notifications were received at the Health Office from the Headmasters and Headmistresses of the various schools within the Borough, of the existence of Infectious or Contagious Diseases among the scholars attending their schools. Of this number, 989 were certified as suffering from one or other of the under-mentioned ailments:—

Measles		434
Mumps		273
Whooping Cough		175
Chicken-pox		54
Ringworm		16
Eczema		ΙΙ
Sore head		IO
Ophthalmia		9
Impetigo	• • •	4
Otorrhœa		2
Bronchitis		I

The number of notifications received from the various schools during the years 1907, 1908, 1909, and 1910 were 730, 684, 989, and 589 respectively.

The following are the schools from which notifications were received in the order of number of the notifications:—

Brunswick School.

St. Joseph's School.

St. John's School.

All Saints' School.

Chesham School.

St. Paul's (Bell) School.

Parish Church School.

St. Mark's School.

Wood Street School.

Holy Trinity School.

East Ward Council School.

Elton Council School.

Clerke Street School.

Guardian Angels' School.

St. Mary's School.

Christian Church School.

George Street School.

St. Chad's School.

St. Stephen's School.

Walmersley School.

St. Paul's (Huntley) School.

SCHOOL CLOSURE.

During the year the Mixed Departments of seven public elementary schools, and the Infants' Departments of 20 public elementary schools have been closed at different periods, on account of the prevalence of Infectious Diseases amongst the scholars. The following is a list of schools, showing the period during which they were closed and reason for closing:—

School. Dept. Period Closed. Disea	se
All Saints'	les
St. Paul's (Huntley) ,, ,, ,,	
St. John's, ,, ,,	
Holy Trinity, Jan. 12th to 30th,	
Brunswick, ,, ,, ,, ,,	
Wood Street, Jan. 13th to 30th,	
St. John's Mixed. Jan. 20th to 30th,	
CheshamInfantsJan. 24th to Feb. 13th,,	
St. Mark's, ,, ,, ,, ,, ,, ,,	
St. Mark's Mixed. Jan. 26th to Feb. 13th,	
Parish ChurchInfantsFeb. 16th to Mar. 13th,,	
St. Paul's (Bell) , Mar. 2nd to 20th	ıps
St. John's ,, Mar. 8th to 20th Smallpox (contains	ct)
St. John's Mixed., ,,	
St. Mark's Infants Mar. 14th to April 3rd Mum	ps
St. Mark's Mixed ,, ,,,	
East Ward CouncilInfants ,, ,, ,, ,, ,, ,,	
St. Paul's (Bell), Mar. 20th to April 3rdMumps and Meas	les
St. John's ,, ,, Smallpox (contact	ct)
St. John's Mixed ,, ,, ,, ,, ,,	
East Ward Council ,, Mar. 21st to April 3rd Mumps and Ringwor	rm
Walmersley Infants Mar. 27th to April 13th Mum	$\mathbf{p}\mathbf{s}$
Walmersley Mixed ,, ,,, ,,	_
East Ward Council Infants Nov. 28th to Dec. 23rd Whooping Cough a Chickenp	
St. Paul's (Bell) ,, Dec. 1st to 25th ,, ,,	
All Saints' ,, Dec. 5th to 25thWhooping Cou	gh
St. Thomas's, Dec. 6th to 25th,	

DISINFECTION.

In each case after the closure of a school the walls, desks, floors, &c., have been sprayed with a solution of formalin or "Chloros," the rooms afterwards being fumigated with sulphur, special attention being given to the books, &c., used by the scholars.

Mention might also be made of the co-operation of the School Managers with the Health Department in their endeavours to prevent and control infectious diseases. Much valuable assistance has also been rendered by clergymen and others to the Department by not holding classes in the schoolrooms on Sundays during the period of closure of the day school for an infectious disease.

MEASLES.

Number	of	cases	notified	by	School	Authorities	• • •	 469
Number	of	deaths						 26

Measles was very prevalent during the first quarter of the year. The Moorside and East Ward portions of the town were most affected. The mortality rate was equal to 0.44 per 1,000 of the population, as compared with a rate of 0.13 during the preceding year.

Measles is looked upon far too lightly by parents. It is usually considered a trivial ailment and one which every child must have sooner or later. But when one considers that during the last ten years (1901-10) 184 deaths were caused by Measles alone in Bury, whilst during the same period only 58 deaths were attributed to Scarlet Fever, which is looked upon by the public as a far more dangerous disease, the seriousness of Measles is at once apparent.

Measles is a "preventable disease," but, unfortunately, it is extremely infectious before the rash appears and the true nature of the disease becomes evident. In its earlier stages it resembles a common cold, and thus children are often sent to school in an infective condition.

The older the child is when it contracts Measles the better are its chances of recovery, as is evident from the fact that out of the 26 deaths from the disease during the year 1911, 25 occurred in children under five years of age.

WARD DISTRIBUTION OF FATAL CASES.

MONTHLY RECORD OF DEATHS.

Jan. Feb. Mar. April. May. June. July. Aug. Sep. Oct. Nov. Dec. Total.

SCHOOL CLOSURE.

During the first quarter of the year the Infants' Departments of eight schools, and both departments of two schools, were closed. on account of the prevalence of Measles amongst the scholars. The following is a list of schools closed:—

All Saints' Infants' Dept Jan. 10th to Jan. 30th.
St. Paul's (Huntley) Infants' Dept Jan. 10th to Jan. 30th.
St. John's Infants' Dept Jan. 10th to Jan. 30th.
St. John's Mixed Dept Jan. 20th to Jan. 30th.
Brunswick Infants' Dept Jan. 12th to Jan. 30th.
Holy Trinity Infants' Dept Jan. 12th to Jan. 30th.
Wood Street Infants' Dept Jan. 13th to Jan. 30th.
Chesham Infants' Dept Jan. 24th to Feb. 13th.
St. Mark's Infants' Dept Jan. 24th to Feb. 13th.
St. Mark's Mixed Dept Jan. 26th to Feb. 13th.
Parish Church Infants' Dept Feb. 16th to Mar. 13th.
St. Paul's (Bell) Infants' Dept Mar. 20th to April 3rd.
(Also for Mumps.)

PRECAUTIONARY MEASURES.—The following precautionary measures are adopted in dealing with the outbreaks of Measles:—

- (i.) Notification of the disease by School Teachers on printed forms supplied by the Health Department. (469 cases of Measles were thus notified during the year, and of these 434 were verified by the Health Department).
- (ii.) Each case is visited, where possible, by the Health Visitor, who leaves handbills, and gives advice as to the precautions to be taken in each instance.
- (iii.) Closure of Schools, chiefly the Infants' Departments, affected by the disease. A request is made also to the Sunday School Authorities to have this portion of the School closed during the period of closure of the Day School.
- (iv.) Disinfection of houses affected, by means of formalin spray, &c., where consent can be obtained.
- (v.) Thorough disinfection of affected Schools, with special attention to books, desks, &c.

WHOOPING COUGH.

Number of cases notified through School Authorities	187
Number of deaths	12

During the year 12 deaths were attributed to Whooping Cough, which is equivalent to a rate of 0.20 per 1,000, as compared with no deaths in the previous year. The rate of mortality for the year compares favourably with the rate (0.21) for England and Wales, and also with the rate (0.24) for the 77 Great Towns.

DEATHS FROM WHOOPING COUGH DURING THE LAST TEN YEARS.

1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	Average.	1911
О	ΙO	7	42	I	6	27	6	13	О	II.2	I 2

AGE DISTRIBUTION.

Under 1	1 and	under	2 2	and	under	5	All Ages.
4		6 .			2 .		12

WARD DISTRIBUTION.

Ward.	No. of Deaths.
Moorside	I
East	8
Church	I
Redvales	I
Elton	I

MONTHLY INCIDENCE.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
			—		I	I	2	3	—	I	4	12

QUARTERLY INCIDENCE.

ıst Quarter	2nd Ç	Quarter	3rd Qua	rter 4th	n Quarte	r Who	ole Year
		I	6		5		I 2

School Closure.—During the year it was found advisable to close the Infants' Departments of two schools on account of the prevalence of Whooping Cough, also the Infants' Departments of

two schools owing to the prevalence of Whooping Cough and Chickenpox. The following are the particulars of the closures:—

East Ward Council ... Nov. 28th to Dec. 23rd...Whooping Cough and Chickenpox.

St. Paul's (Bell) ... Dec. 1st to Dec. 25th...Whooping Cough and Chickenpox.

All Saints' Dec. 5th to Dec. 25th... Whooping Cough. St. Thomas's Dec. 6th to Dec. 25th... Whooping Cough.

Handbills, of which the following is the text, were extensively distributed at different periods during the year:—

WHOOPING COUGH.

Whooping Cough is a very serious disease, and is especially fatal in children under the age of five years. During the year 1900 Whooping Cough caused over six times the number of deaths that resulted from Scarlet Fever.

Whooping begins like a common cold or chest cough, which lasts a week or more, then fits of coughing set in, each of these finishing with a long drawn "whoop." These fits are usually worse at nights, and are more liable to occur if the child be startled or agitated. Vomiting commonly occurs at the end of a fit. Bleeding at the nose and bloodshot eyes may result. The disease usually lasts two months or more. Babies and young children take Whooping Cough most readily; the disease often follows Measles.

Whooping Cough is very infectious, being readily conveyed from one child to another. Articles of Clothing and domestic animals may also convey the infection.

Precautions.—The patient should be isolated and kept warm in a room at an even temperature. If the patient cannot be isolated it is desirable that other children in the same household be sent away, more particularly those under the age of seven years. If a doctor be called in early the disease can often be "cut short" or the cough modified to a great extent. Discharges from the nose and eyes should be received on small pieces of clean linen

rag, which should be immediately burnt. A damp cloth wrung out of disinfectant solution should be used to cleanse any surface on which the discharges (vomit, &c.) have come into contact.

The patient should not attend school until all cough has disappeared, a period usually of at least eight weeks. Children from the house in which there is a patient suffering from Whooping Cough should on no account attend either day or Sunday school for at least three weeks after isolation of the sufferer.

Mothers with children in arms should not visit houses in which Whooping Cough is known to exist, and should use every endeavour to prevent young children from going near such houses.

Disinfectants can be obtained on application to the Health Department, Parsons Lane, and at the Gas Works, Elton. Disinfection of rooms, clothing, &c., will be undertaken by the Health Department, free of charge.

G. GRANVILLE BUCKLEY,

MEDICAL OFFICER OF HEALTH.

DIARRHŒA.

Sixty-five deaths have been recorded from Diarrhœa during the year, as compared with 25 deaths in the previous year. The rate of mortality is equal to 1.11 per 1,000 of the population, as compared with a rate of 0.42 per 1,000 in the previous year. The rate of mortality is not quite so satisfactory as in the previous year. An unsatisfactory feature is the large proportion of deaths which occurred in children under one year of age, as out of the 65 deaths 45, or 69.08 per cent., occurred in infants during the first year of life, and all these occurred amongst infants who were being fed by the bottle.

MONTHLY INCIDENCE.

January	
February	
March	
April	1
May	
June	2
July	
August	28
September	26
October	5
November	I
December	2

WARD DISTRIBUTION.

Ward		of Deaths.
Moorside	 	15
East	 	2 I
Church	 	I 2
Redvales	 	7
Elton	 • • •	IO
Whole Borough	 	65

AGE PERIODS.

Under 1 to 2 2 to 5 5 to 15 15 to 25 25 to 45 45 to 65 65 upwards All Ages 45 ... 7 ... 5 ... 65

Comparative Mortality Rates in 1911.

The death-rate from Diarrhæa in Bury compares very favourably with the mortality rates in the other large towns, the rates for the Lancashire towns being as follows:—

Blackburn		1.56
Bolton		1.53
Bootle		2,00
Burnley		2.42
Bury		I.II
Oldham		1.8
Rochdale	• • •	0.96
St. Helens		1.47
Warrington		1.9
Wigan		2.26

It will thus be seen that the Diarrhœa death-rate in Bury is, with one exception, the lowest of the rates for the Lancashire members of the 77 Great Towns of England and Wales.

CLEANING OF STREETS, &c.—With a view of minimising to some extent the various factors which have been considered to have a causal relation to Summer Diarrhœa, the following special methods of cleansing were adopted during the period from May to the end of September:—(a) The sweeping of streets was carried out during the night-time, the combined street-watering and brushing machines being used (except in wet weather). (b) The collection of stable refuse, &c., during the daytime, by men with handcarts (orderly men), was extended to all the streets. addition to the principal thoroughfares, special attention was paid to the watering of secondary and other streets. (d) Special attention to the emptying of sanitary conveniences, especially those of the "Pail" and "Privy Midden" types. (e) After the emptying of contents from the latter types of conveniences the interiors of same were limewashed by means of a sprayer, with a sanitary lime. (f) The emptying of street gullies direct into a tank cart, the gulley afterwards being sealed with clean water, to which had been added a soluble disinfectant,

INFLUENZA.

Eight deaths were attributed to Influenza during 1911. This represents a mortality rate of 0.13 per 1,000 as compared with seven deaths and a rate of 0.12 per 1,000 in the previous year.

Deaths from Influenza during 1911 as compared with the ten preceding years:—

AGE DISTRIBUTION.—Two deaths have occurred under one year of age, one between 15 and 25, three between 45 and 65, and two were of persons over 65 years of age.

WARD DISTRIBUTION—

Moorside	East	Church	Redvales.	Elton	Whole Borough
I	. 5	2		• • • •	8
Quarter	LY INCIDE	ENCE-			
ıst Quarter	2nd Quarte	er 3rd Ç	Juarter 4t	h Quarter	Whole Year
2	I		I	4	8

TUBERCULOUS DISEASES.

PHTHISIS.

Phthisis caused 57 deaths, of which 30 were of males and 27 females. The rate of mortality was 0.97 per 1,000, as compared with a rate of 1.23 per 1,000 in the previous year. Six of the deaths occurred in the Union Workhouse, one in the County Asylum, St. Helens, and one in a private residence at Coleham.

The age and sex distribution of the cases was as follows:—

Under I I to 5 5 to 15 15 to 25 25 to 45 45 to 65 65 upwards Total

Males — ... — ... I ... 6 ... 9 ... I3 ... I ... 30

Females... ... — ... — ... 2 ... 5 ... I4 ... 5 ... I ... 27

Mean Age at Death from Phthisis.												
Males 41.2												
Females 35.4												
WARD DISTRIBUTION OF DEATHS FROM PHTHISIS.												
Moorside East Church Redvales Elton Total												
Males 5 10 8 1 6 30												
Females 10 3 9 2 3 27												
DEATH RATES FOR PHTHISIS IN THE SEVERAL WARDS.												
Moorside East Church Redvales Elton												
1.03 1.09 2.33 0.28 0.64												
Quarterly Incidence of Phthisis.												

DISINFECTION.—Thirty-three rooms in 13 houses have been disinfected with the fumes of formalin, and the walls of 48 rooms in 17 houses have been sprayed with a solution of formalin after the occurrence of deaths from Phthisis.

1st Quarter2nd Quarter3rd Quarter4th QuarterWhole Year14.....19.....57

Occupations of Persons Dying from Phthisis during the Years 1901-1911.

	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911
Cotton Operatives	24	13	16	ΙI	ΙΟ	13	15	9	16	13	ΙI
Woollen Operatives	3	О	2	О	Ι	Ο	Ο	Ο	Ο	Ι	Ο
Felt Hat Workers	2	3	2	2	Ι	3	Ο	I	Ο	3	Ο
Paper Mill Workers	3	2	2	Ο	О	Ι	4	О	2	2	Ι
Iron Operatives	О	ΙΙ	8	6	8	2	6	5	6	6	2
Stone Masons	2	2	Ο	5	2	3	2	Ο	3	I	Ο
Dressmakers and Tailors	Ο	3	Ο	2	5	I	I	I	Ο	Ο	3
Joiners and Cabinetmakers	2	2	2	3	2	2	Ο	2	О	3	Ι
Shoemakers and Cloggers	Ο	2	Ο	2	О	Ο	О	Ο	2	I	Ο
Clerks	Ο	0	2	Ι	Ι	Ι	Ο	Ο	3	Ο	Ο
Outdoor Labourers & Carters	8	ΙΟ	6	25	7	16	13	19	Ι2	6	7
Other or no employment	49	27	29	40	36	32	25	26	27	37	32
Totals	93	75	69	97	73	74	66	63	71	73	57

The class "outdoor labourers and carters" cannot be taken as an accurate description of the real occupation of the fatal cases so described, for many of them, who originally followed other employment, changed it for an outdoor one later, on medical advice.

Voluntary Notification of Phthisis.—This system, which has been in use in Bury since September 5th, 1901, resulted last year in 27 fresh cases being notified, making a total of 340 notifications since the first adoption. All the notified cases were visited by the Lady Sanitary Inspector, who advised as to the nursing of the patients, and prevention of the spread of infection; handbills on "How to Prevent Consumption" and "Fresh Air and Ventilation" were left at the houses.

AGE AND SEX OF THE NOTIFIED CASES:

	\mathbf{U}	nder 5	5	to 15	15 to 25	. 2	25 to 45	45 to 65	65	Upwa	ırds	Total
Males					 2		5	 4				ΙI
Females					 4		ΙI	 I				16

OTHER TUBERCULOUS DISEASES.—Twenty-six deaths resulted from tuberculous diseases other than Phthisis, as compared with 20 deaths in the previous year.

The age distribution was as follows:—

```
Under 1 to 2 2 to 5 5 to 15 15 to 25 25 to 35 35 to 45 45 Upwards Total 6 ... 3 ... 5 ... 7 ... 1 ... — ... 4 ... 26
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Tuberculosis, therefore, was responsible for 83 deaths altogether, which is equivalent to a rate of 1.41 per 1,000.

In other words, one out of every eleven deaths in Bury is due to some form of Consumption.

Bacteriological Examination of Sputum.—The sputa of 49 suspected cases of Phthisis were sent in special tins to the Public

Health Laboratories, Manchester. Tubercle Bacilli were found in 16 cases, and a negative result was obtained in 33 cases.

DEATHS FROM PHTHISIS IN BURY DURING THE PAST 10 YEARS:—

The number of persons engaged in the cotton trade in Bury at the *1901 census was 11,035, of which 3,155 were males and 7,880 females.

*The figures relating to the 1911 census are not yet to hand.

PHTHISIS RATE.

PUBLIC HEALTH (Tuberculosis) REGULATIONS, 1908. PUBLIC HEALTH (Tuberculosis in Hospitals) REGULATIONS,

1911.

The Public Health (Tuberculosis) Regulations is an Order of the Local Government Board, and makes compulsory the notification to Medical Officers of Health of cases of Phthisis occurring in Poor Law Institutions, or amongst persons in charge of District Medical Officers. The Order came into force on January 1st, 1909, and during the year 59 notifications were received at the Health Office, as follows:—

FORM D.—Notifications from Relieving Officers of change of address of Phthisis patients in their districts o

After notification, where possible the cases were visited by Nurse Walton, and suitable advice given re methods of dealing with sputum and prevention of spread of the disease. Pamphlets dealing with Light, Ventilation, and Consumption were also left at the patients' houses. Disinfectant solutions, paper handker-chiefs, and spittoons were supplied gratis to the patients. Subsequent visits were also paid by the Lady Inspector to ensure that the instructions were being carried out, and to give advice about the nursing of the patients, many of whom were in the last stage of the disease.

Of the 59 notified cases, 41 were males and 18 females.

Notification was still further extended by the Regulations as to Tuberculosis in Hospitals, 1911. This Order came into force on May 1st, 1911, and contains the following provisions:—

ARTICLE IV.—(1) A Medical Officer of any hospital, within the period of 48 hours after his first recognition of Pulmonary Tuberculosis in a person upon whom he is in medical attendance at the hospital, shall complete, sign, and transmit a notification of the case in the form shown in the Schedule to this Order to the Medical Officer of Health for the area within which the hospital is situate.

(2) A Medical Officer of Health who receives a notification relating to a patient whose residence as described in the notification is not within the area for which he is Medical Officer of Health, shall forthwith transmit the notification to the Medical Officer of Health for the area in which the patient's residence is situate, and shall at the same time inform the Medical Officer of the hospital that he has done so, and shall give to him the name and address of the Medical Officer of Health to whom the notification has been sent. Any expenses incurred by a Medical Officer of Health in carrying out the duties imposed upon him by this subdivision shall be defrayed by the Council of the area for which he is Medical Officer of Health.

ARTICLE VII.—(1) Nothing in these Regulations shall have effect so as to apply, or so as to authorise or require a Medical Officer of Health, or a Council, or any other person or authority, directly or indirectly, to put in force with respect to any patient in relation to whom a notification in pursuance of these Regulations has been transmitted to a Medical Officer of Health, any enactment which renders the patient, or a person in charge of the patient, or any other person, liable to a penalty, or subjects the patient to any restriction, prohibition, or disability affecting himself, or his employment, occupation or means of livelihood, on the ground of his suffering from Pulmonary Tuberculosis.

- (2) Subject as aforesaid, a Council on the advice of their Medical Officer of Health, in the case of a patient in relation to whom a notification in pursuance of these Regulations has been transmitted to the Medical Officer of Health, may—
 - (i.) take the necessary measures to secure the disinfection of infected articles and the cleansing or disinfecting of premises which have been used by the patient;
 - (ii.) take the necessary measures for the safe disposal or destruction of infectious discharges of the patient;
 - (iii.) supply all such reasonable assistance, facilities, and articles as will tend to diminish the risk of infection arising from the conditions affecting the use or occupation of any room, when used or occupied by the patient as a sleeping apartment;
 - (iv.) furnish, for the use of the patient, on loan, or otherwise, any appliance, apparatus, or utensil which may be of assistance in preventing the spread of infection; and
 - (v.) appoint such officers, do such acts and make such arrangements as may be requisite for giving advice and for carrying out the provisions of these Regulations, and of the Public Health (Tuberculosis) Regulations, 1908:

Provided that nothing in this sub-division shall be deemed to authorise a Council to take any of the measures herein mentioned at any hospital.

(3) A Council, on the advice of their Medical Officer of Health, may provide and publish or distribute in the form of placards, handbills, or leaflets, suitable summaries of information and instruction respecting Pulmonary Tuberculosis, and the precautions to be taken against the spread of infection from that disease.

Under these Regulations eight notifications have been received, five of which were males and three females.

AITKEN SANATORIUM.

During the year under review 74 patients have been admitted to the Aitken Sanatorium at Holcombe Brook. The function of the Sanatorium is twofold, viz.: (a) Educational and (b) Curative.

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Each patient admitted to the Institution is there educated in all matters appertaining to his general health, and avoidance of spread of infection to others. He is given an abundance of good food, and practically lives in the open air. His stay in the Sanatorium varies from a month upwards, at the discretion of the Medical Superintendent.

When the patient is discharged a note is sent to the Medical Officer of Health, and the case is periodically re-visited by the Health Visitor.

The table on pages 68 and 69 gives some particulars of the 86 patients from Bury who have been admitted to the Sanatorium since its opening in August, 1910, and discharged before December 31st, 1911.

Enquiries were made in December, 1911, as to the state of health of the patients at that time, and the results are given in the 13th column. From this it will be seen that 13 of them (15.12 per cent.) had died in the meantime, while, as shown in the last column, three others have died since the enquiries were made.

Report of Investigation after discharge from Aitken Sanatorium, on condition of persons suffering from Phthisis.

REMARKS	Died in Africa Re-admitted December, 1911 Re-admitted August 2, 1911 Removed Removed to Heywood Since deceased Mother died of phthisis Re-admitted to Sanatorium Nov., 1911 Removed Three children, notified cases of phthisis Father suffering from phthisis	16
Period of Working since Discharge	Irregular Irregular Irregular Irregular Irregular Irregular Regular Regular Regular Regular Regular Irregular Regular Regular Regular Irregular Regular Irregular Regular Irregular Regular Irregular Regular Irregular Regular Regular Regular Irregular Regular	14
Present State of Health (Dec. 1911)	Deceased Good Fair Fair Good Deceased Deceased Very Good Fair Fair Good Fair Fair Fair Good Fair Fair Good Fair Fair Good Cood Fair Fair Good Fair Fair Good Cood Cood Fair Fair Good Cood Cood Cood Cood Cood Cood Cood	13
Condition on Discharge	Greatly improved Improved Unchanged Unchanged Unchanged Improved	12
syab to .oV m'tana2 ni	\$44.220.220.220.220.220.220.220.220.220.2	
Date of Discharge	Oct. 11, 1910 Oct. 27, Oct. 27, Oct. 27, Oct. 27, Nov. 27, Nov. 28, Nov. 17, Nov. 24, Nov.	10
Date of Admissi'n to Sanatorium	Aug. 25, 1910 Sep. 1, Sep. 1, Oct. 6, Oct. 27, Oct. 6, Aug. 25, Sep. 29, Sep. 22, Sep. 23, Sep. 24, Sep. 29, Sep. 20, Se	6
No. in Family	44000000000400000000000000000000000000	00
No. of Rooms in House	H 0 1 2 4 4 4 4 4 4 4 0 0 4 4 4 4 4 4 4 4 4 4	7
Home circum-stances	Poor Poor Good	9
Occupation	None School None None None None School School School School School School School None Weaver Weaver None Weaver Labourer School	9
Married or Single.		4
Age	84 180468 00211 00 7 4 1 2 8 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	က
Sex	世祖城城山祖祖城祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖祖	2
No.	10040000010001000000000000000000000000	-

	ly phthisis sis sis orium phthisis phthisis	
15	Gone to Australia Since deceased Phthisis both sides of family Since deceased Phthisis on mother's side of family Sister and brother-in-law died of phthisis Father and mother died of phthisis Father and resent in sanatorium Two children at present in sanatorium Two children at present in sanatorium Father said to be suffering from phthisis Removed—Left town Removed—Common lodging house	Father died of phthisis
14	Irregular Regular Regular Regular Regular Irregular Not work'g	Not work's
13	Good Good Very Good Very Good Very Ill Fair Very Ill Deceased Good Good Good Cood Cood Cood Fair Good Very Good Fair Good Good Fair Good Good Good Fair Good Good Good Good Fair Good Good	Fair Good Fair Fair Deceased Fair Fair Fair Good
12	Greatly improved Greatly improved Improved Improved Improved Greatly improved Improved Improved Improved Improved Improved Greatly improved Greatly improved Greatly improved Improved Improved Improved Improved Greatly improved	Improved Greatly improved Improved Greatly improved Greatly improved Greatly improved Unchanged Improved Improved Greatly improved
=	11	1115 200 200 195 87 87 260 174 105 24
10	OGGITTE SPECIAL SPECIAL AGENTINGS	Nov. 9, Nov. 94, Nov. 14, Nov. 29, Nov. 29, Dec. 9, Dec. 19, Dec. 28, Dec. 28,
6	Dec. 22, 1910 Jan. 26, 1911 Jan. 26, 1911 Dec. 23, 1910 Dec. 26, 1911 Jan. 26, 1911 Jan. 26, 1911 Jan. 26, 1911 May 18, " Mar. 2, " Mar. 2, " Mar. 2, " April 6, " April 6, " April 13, " April 13, " April 16, " Aug. 12, " Aug. 12, " Aug. 12, " Aug. 12, " Aug. 14, " Aug. 29, " June 8, " Aug. 24, " Oct. 17, "	
∞	8	048000000000
2	HOtel A44444444 A461944444444444444444444444444444444444	444444444
9	Good Good Good Good Good Good Good Good	Fair Good Fair Fair Fair Fair Fair Fair Poor
70	Butcher School Spinner None formerly p'nter Insurance Agent Weaver Bleachworks Weaver Wheaver Weaver None Housewife Hatworks Weaver None School School Waiter Labourer Weaver Rousewife Hatworks Weaver School	Boot Repairer Cardroom Hand Hatworks Fitter Foundry Greengrocer Barber Barber Weaver Moulder School
4		S. K. S. K. S. K. S. K. S.
က	**	26 19 23 33 45 29 29 25 10
©1	Zařananářek ařanan zanakarakaza	PERKERKER PERKER
	L 5444444444444444444444444444444444444	777 780 880 881 882 888 884 885 886 886 886 886 886 886 886 886 886

CANCER.

During the year 46 deaths (equal to a mortality of 0.78 per 1,000) were registered as due to various forms of malignant disease. Of these deaths, 16 were males and 30 females.

Sex and Age.	Und	ler (35-	35	to 45.	45	to 55		5	5 to 6	5.	65 to 75	5.	Over 7	75.	Total.
Males .		1			I		5	• •		3	• •	. 5		I		16
Females		I		•	3		7			ΙI		. 5		3		30

The following table gives the ward distribution of these deaths, and the rate of mortality in each ward, as compared with the corresponding figures for each of the four preceding years:—

	No. F	907. Rate per	No.	1908. Rate per	No.	1909. Rate p	er	No.	910. Rate per	No.I	1911. Rate per
Ward.	10	000.		1000.		1000.		I	000.		1000.
Moorside	15	1.05	 8	0.24 · ·	15	1.01		8	0.54	17	0.59
East	OI	0.83	 I 2	1.08	8	o 66		9	0.74	I 2	1.01
Church	7	0.92	 8	1.08	14	1,30		ΙI	1.49	5	0.68
Redvales	8	0.74	 14	1.51	8	0.73		7	0.64	7	0.62
Elton	I 2	0.84	 15	1.00	12	0.84	• •	7	0.49	5	0.32
	**										
Totals	52	0.88	57	0.06	57	0.96		42	0.41	46	0.78
								-			

Character of the disease as described on the returns:—

	Males.		Females.
			19
"Malignant Disease"			
Carcinoma			9
Epithelioma	I		
Sarcoma			
Organs Affected.	Males.		Females.
Mouth	2		I
Œsophagus	I		
Stomach		• • • • • • •	4
Intestine	4		. I
Rectum	I		•
Liver	. 4		. 3
Gall Bladder			. I
Breast			. 8
Uterus	·		. II
Peritoneum			. 1
Throat	1		. —
Neck	I		
Lungs	1		
	16		30

DISINFECTION.

The following is a summary of the disinfection carried out during the year in the reported cases of Infectious Diseases:—

396 rooms in 287 houses were disinfected with the fumes of either sulphur or formaldehyde, and the walls of 591 rooms in 299 houses sprayed with a solution of either formalin or carbolic acid.

245 rooms in 51 houses have been fumigated with sulphur, at the request of either the tenant or owner.

Twenty-three public schools have been fumigated with sulphur, and the desks, books, walls, &c., sprayed with a solution of formalin, the rooms afterwards being disinfected with the fumes of formaldehyde.

In addition the walls of the Dispensary Hospital have several times during the year been sprayed with a solution of formalin, the rooms afterwards being disinfected with the fumes of formaldehyde.

Thirty-three rooms in 13 houses have been disinfected with the fumes of formalin, and the walls of 48 rooms in 17 houses sprayed with a solution of formalin, after the occurrence of deaths from Phthisis.

Eight parcels of infected clothing and 310 sets of infected bedding have been disinfected by steam.

It may be said that in the disinfection of rooms—the spraying of floors, walls, ledges, &c., with either formalin or carbolic or other disinfectant solution before fumigation, is now the routine procedure.

WATER SUPPLY.

Public Supply.—The public service of the Borough is derived from three of the Reservoirs belonging to the Bury and District Joint Water Board. The Board represents the following Authorities:—Bury, Radcliffe, Ramsbottom, Tottington, Haslingden, Rawtenstall, Whitefield, Little Lever, and Bury Rural. The area supplied is 80 square miles.

The three Reservoirs supplying Bury are:—

Gin Hall (situated in Bury), supplying 10,224 houses.

Calf Hey (situated in Haslingden Borough), supplying 1,967 houses, chiefly in the districts of Limefield, Bell Lane, and Blackford Bridge.

Hapton (situated partly in Rawtenstall Borough, partly in Burnley district, supplying 1,525 houses, chiefly in Chesham and Walshaw districts.

The total number of houses supplied at December 31st, 1911, was 13,595.

RAINFALL.

	1911.	1910.	1909.	1908.
Gin Hall	40.44	 49.48	 48.66	 44.17
Calf Hey	46.65	 55.18	 52.41	 44.35
Hapton	53.48	 58.15	 48.97	 39.87

An average of 46.86 inches, as compared with 54.27 in 1910, 50.01 in 1909, and 42.79 in 1908.

DISTRIBUTION.—173 yards of 2-in., 196 yards of 3-in., 1,280 yards of 4-in., 218 yards of 6-in., and 519 yards of 15-in. main have been laid as follows:—

Yards.	I	nches.	Situation.
43		2	Back Parsonage Street.
50		2	Back Manchester Road, off St. Marie's Place.
80		2	Cross Street to Rock Street.
20		3	Church Street, Walshaw.
50		3	Back Church Street, Walshaw.
59		3	Back Walmersley Road and Vernon Street.
67		3	Back Porter Street.
3		4	Crostons Road, opposite Webb Street.
57		4	Rectory Lane, Jericho.
81		4	Rochdale Old Road, Jericho.
85		4	Ainsworth Road, Elton.
115		4	Manchester Road and Dumers Lane.
127		4	Back Chesham Road.
226		4	Denton Street and Back Walmersley Road.
218		6	Wellington Street, Elton.
519		15	Walmersley Road (Bassfield to Gin Hall).
2386			

186 yards of 2-in. main, private lane to Oaklands, Walmersley; 114 yards of 4-in. main, Back Newbold Street; 83 yards of 4-in. main, Harper Street; 204 yards of 4-in. main, Brook Street from Brookshaw Street to Cannon Street; 220 yards of 4-in. main, Chesham Road to Haslam Street; and 17 yards of 6-in. main, Wellington Street, Elton, have been renewed.

Flushing operations have been carried out periodically, and several "dead ends" have been renewed.

From January 1st to December 31st there were 122 houses connected to the public service and 19 houses disconnected.

Water Closets.—During the year the water supply has been connected to 132 baths and 346 water closets, in accordance with the regulations of the Water Works Department.

PRIVATE WATER SUPPLY.—At the end of the year 1911 there were seven houses, 102 cottages, and two schools supplied with water from private sources. The following list shows the situation and the number of houses supplied:—

- 4 cottages, Well Brow.
- 1 cottage, Holebottom.

School, Woodgate Hill.

- 1 house, Green Bank.
- 1 house, Chesham.
- 1 house, Chesham Green.
- 1 cottage, Cinder Hill.
- I house, South View.
- 2 cottages, Chesham Green.
- 3 cottages, Cinder Hill.
- 1 cottage, Gipsy Brook.
- I cottage, Chesham.
- 2 cottages, Birchen Bower.
- 2 cottages, Lowes.

- I house, Broom House.
- 4 cottages, Duckworth Fold
- 2 houses, Springs.
- 2 cottages, Spring Cottages.
- 4 cottages, Springs.
- 9 cottages, School Street.
- 1 cottage, Bury Ground.
- 3 cottages, near Bury

Reservoir.

- 3 cottages, Woodhill Fold.
- 12 cottages, Yates Terrace.

School, Woodhill.

- 44 cottages, Woodhill.
 - 3 cottages, Stag Houses.

FACTORIES AND WORKSHOPS.

FACTORIES.—During the year nine notices have been received from His Majesty's Inspector of Factories, all of which have been complied with.

Workshops.—The duty of supervising the workshops in which males are employed is carried out by Inspectors Haworth and Kay, and the Female Inspector (Nurse Walton) has charge of the workshops in which females only are employed. The Inspectors have paid 441 visits to the workshops during the year.

General Sanitation.—The workshops, as regards clean-liness, light, air space, &c., have been found to comply with requirements. From a sanitary point of view the conditions under which work is carried on in these rooms is very satisfactory, and it is pleasing to record that any suggestions for further improvement have been carried out by the owners. The number of workshops in the Borough is 409, a decrease of 62 as compared with the previous year.

Bakehouses.—The number of bakehouses on the register is 84, as compared with 83 in the previous year. Inspector Openshaw, who has the bakehouses under supervision, reports that the businesses have been conducted in a very satisfactory manner, a pleasing feature being that no complaints have been received from residents in the vicinity of bakehouses of the excessive emission of smoke.

During the year one cellar bakehouse has been registered, making a total number of two cellar bakehouses within the Borough.

SHOP HOURS ACTS.—The duties of carrying out the provisions of these Acts, also the provisions under the Seats for Shop Assistants' Act, have been entrusted to Nurse Walton and Inspector Haworth. The Inspectors have paid 465 visits to the various shops in the performance of these duties, and have found that the requirements of the Acts were being carried out.

Home Work.—Lists containing the names and addresses of home workers have been received from several firms and entered in the register. The Inspector (Nurse Walton) has paid 82 visits to the homes in which the work is carried on, and she reports that in the majority of cases the work is performed under satisfactory conditions,

Extract from Copy of Table sent to the Home Office at the request of the Secretary of State.

Annual Report of Medical Officer of Health for 1911, for the County Borough of Bury.

FACTORIES, WORKSHOPS, LAUNDRIES, WORKPLACES, AND HOMEWORK.

1.—INSPECTION.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances.

	Number of							
Premises.	Inspections.	Written Notices.	Prosecutions.					
Factories (Including Factory Laundries	28	18	••					
Workshops(Including Workshop Laundries.)	164	8	• •					
Workplaces (other than Outworkers' premises)	11	5	• •					
Total	203	31	• •					

2.—DEFECTS FOUND.

	Nu	Number		
Particulars.	Found.	Remedied.	Referred to H.M. Inspector.	of Prosecutions.
Nuisances under the Public Health Acts:—				
Want of cleanliness	13	13		• •
Want of ventilation	1	1		• •
Overcrowding	• •			• •
Want of drainage of floors	1.0	10	• •	• •
Other nuisances	$\frac{13}{2}$	13	• •	• •
Sanitary (insufficient	3 8	3		• •
Sanitary accommodation (insufficient unsuitable or defective not separate for sexes	_	7	1	• •
\ not separate for sexes	• •	• •	• •	• •
Offences under the Factory and Workshop Act:—				
Illegal occupation of underground bakehouse (S. 101)	• •	• •	• •	
Breach of special sanitary requirements for bakehouses (SS. 97 to 100.)	• •	• •		
Failure as regard lists of outworkers				
(S. 107)	• •	• •	• •	• •
be done in (S. 108)	• •	• •	• •	• •
premises which are (infected (S.110)	• •	• •		• •
Allowing wearing apparel to be made in premises infected by scarlet				
fever or smallpox (S. 109)	• •		• •	• •
Other offences	• •	• •	• •	• •
Total	38	37	1	• •

77
OTHER MATTERS.

Class.		Nu	mber.
Matters notified to H.M. Inspectors of Fact	tories:—		
Failure to affix Abstract of the Factory & V	Workshop Act (S. 133)		3
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5)	Notified by H.M. Inspector Reports (of action taken) sent to		9
Out	H.M. Inspectors.		9
Other		-	
Underground Bakehouses (S. 101):— Certificates granted during the year In use at the end of the year			1 2
		Num	iber of
Homework:		Lists.	Outworkers.
List of Outworkers (S. 107):— Lists received:—Twice in the year Once in the year		2	59 6
Addresses of outworkers { forwarded received fr		_	82
Inspection of Outworkers' Premises	• • • • • • • • • • • • • • • • • • • •	***	
Homework in unwholesome or infected pres	nises:—	Wearing Apparel.	Other.
Notices prohibiting homework in un (S. 108)		_	
Cases of infectious disease notifie premises		_	
Orders prohibiting homework in infe	cted premises (S. 110)	_	_
Workshops on the Register (S. 131) at the e Bakehouses Blacksmiths Brush Manufacturers Boot and Shoe Makers a Cloggers Cabinet Makers and Join Dress and Mantle Maker Wheelwrights Workplaces Marine Store Dealers & N Painters and Decorators Plumbers Saddlers Tailors Milliners Other Trades Total number of works	84	40	9

THE HOUSING PROBLEM.

In the past the Housing Committee have devoted much time and attention to the solution of this important matter. At the close of 1910 the Local Government Board sanctioned a scheme for the erection of dwellings for the working classes. Sanction was also given for the borrowing of £31,000, being the estimated cost of acquiring a plot of land off Bolton Road, and erecting thereon 132 houses.

The Committee decided to erect six types of houses, as follows:—

```
10 houses known as type A.
                     ,, amended type A.
60
                                       В.
                                       C.
 12
                                       D.
20
              ,,
 28
                                       E.
       ,,
              ,,
                     ,,
                           ,,
132
```

Many of these houses were almost completed by the end of 1911.*

I may mention here that provision should, if possible, be made for those people who have been displaced by the closing of houses under the Housing, Town Planning, &c., Act, 1909. Several of the houses which have been closed were small houses of the backto-back type, containing two rooms only, and were let at very low rentals—as little as 1s. 6d. per week in some cases. Some of these have been made into through houses, and are now let at a higher Others are so situated that it is impossible to make them fit for human habitation. In some cases the tenants have still remained in the houses at higher rentals, in others they have managed to find houses at approximately the same figure, while a few have, I understand, gone to live in furnished rooms. last is, of course, a very undesirable state of affairs. The urgency of the matter will become more pronounced as time goes on and the work of House Inspection proceeds.

^{*} At the time of writing (June, 1912), the whole of the houses are completed and tenanted.

HOUSING, TOWN PLANNING, &c., ACT, 1909.

The first list of these houses to be inspected under the Housing and Town Planning Act was submitted to the Health Committee on June 14th, 1911, and was as follows:—

1, 2, 3, and 4, Plantation Square.

11, 13, 15, 17, 19, and 21, Moor Street.

5, 6, 7, 8, and 9, Back Moorgate.

1 and 2, Pipe Fold.

3, 5, and 7, Crescent.

1, 3, 5, and 7, Spencer's Yard.

1, 3, 5, 7, 9, and 11, Spencer's Court.

2, 4, 6, 8, 10, and 12, Flint Street.

1, 3, 5, 7, and 9, Bazaar Street.

1, 3, and 5, Britannia Yard.

55, 57, and 59, Paradise Street.

2, 4, 6, 8, 10, 12, 14, and 16, Back Eden Street.

3, 4, 5, and 6, Moorside Fold.

1 and 3, and 2 and 4, Downham's Yard.

1 and 3, Franklin Court.

1, Back Franklin Street.

49 and 51, Hornby Street.

7 and 9, Brunswick Street.

1, 2, 3, 4, and 5, Taylor's Court.

6, 8, and 10, Barrett Street.

6, 8, and 10, Back Barrett Street.

6 to 38, Livsey Street.

2 to 12, Back Tenters Street.

1, 3, 5, and 7, School Street

9 to 13, Nuttall Yard.

1 to 19, Howard's Yard.

2, 4, 6, and 8, Mitchell Court.

2, 4, and 6, Irwell Court.

1, 3, and 5, Stott's Court.

1 and 3, Foundry Court.

A total of 114 houses.

It was deemed advisable to proceed slowly with the inspections at first until some little experience of the results of the action taken had been gained. During the year the following houses have been dealt with under the Act:—

- 1, 2, 3, and 4, Plantation Square.
- 11, 13, 15, 17, 19, and 21, Moor Street.
- 5, 6, 7, 8, and 9, Back Moorgate.
- 1 and 2, Pipe Fold.
- 3, 5, and 7, Crescent.
- 1, 3, 5, and 7, Spencer's Yard.
- 2, 4, 6, 8, 10, and 12, Flint Street.
- 1, 3, 5, and 7, Bazaar Street.

The Town Council issued closing orders in respect to all the above houses, with the exception of—

- 6, Flint Street,
- 3, Bazaar Street,
- 3, Crescent,

which were dealt with under Section 15, notices being served upon the landlords requiring the execution of the works necessary to make them in all respects reasonably fit for human habitation.

The position with regard to these houses is, at the time of writing, as follows:—

- and 2, Pipe Fold: Made into through houses with 28 and 30, Bell Lane. New windows inserted and made to open. Bedroom fireplace fixed. Structural repairs carried out. Houses decorated. Closing orders determined.
- 4, 5, 6, and 7, Plantation Square: Closed.
- 3 and 5, Crescent, 1, 3, 5 and 7, Spencer's Yard: 3 and 5, Crescent, made into through houses with 1 and 3, Spencer's Yard. Structural repairs carried out. Water closet provided for each house. Closing orders determined. 5 and 7, Spencer's Yard, closed.
- 7, Crescent: Notice served under Section 15. Necessary work carried out.
- 2, 4, and 6, Flint Street: Closing orders made.
- 7, Simpson Street, I and 3, Bazaar Street: Work of rendering fit for human habitation now in hand.
- 8, 10, and 12, Flint Street: Closing orders made.
- 5, 7, and 9, Bazaar Street: Work of rendering fit for human habitation now in hand.
- 11 to 21, Moor Street: Closed.
- 5, 6, 7, 8, and 9, Back Moorgate: Closed.
- 1, 2, 3, 4, and 5, Downham's Yard: No. 5 made into through house with No. 14, John Street. Nos. 1, 2, 3, and 4 closed.

HOUSES LET-IN-LODGINGS.

("Furnished Rooms.")

These houses, which are under the supervision of Inspector Haworth, have been kept in a fairly clean state. Four houses have been given up during the year, and twelve have been opened, the number of these houses now on the register being 42. Speaking generally, this method of housing the poorer classes is far from satisfactory, but until some other provision is made in the shape of the erection of a cheaper type of house suitable for this class of people, either by the Corporation or by private enterprise, we shall have to endure what, in my opinion, constitutes a blot on the Sanitary Administration of the town.

COMMON LODGING-HOUSES.

The number of Common Lodging-houses in the Borough is 24, the same number as in the previous year, all of which are subject to annual registration in accordance with Section 40 of the Bury Corporation Act, 1901 (now consolidated in the Bury Corporation Act, 1909). The houses have been kept clean, and have been limewashed twice in the year in accordance with requirements. Two of the houses have been transferred to other owners during the year.

MEAT INSPECTION. THE PUBLIC ABATTOIRS.

The returns for the year 1911 show an increase in the number of animals slaughtered compared with the year 1910, bringing the figures nearer to those (30,136) recorded in 1907:—

	1910.	1911.		
Beasts	4038	 4110	 Increase	72
Sheep and Lambs	20335	 2022 I	 Decrease	114
Pigs				
Calves	1010	 930	 Decrease	80

From the above table it will be observed that the number of animals slaughtered (29,986) at the Public Abattoirs during the

year 1911, shows an increase of 313, as compared with the number slaughtered (29,673) in 1910.

Inspector Openshaw reports Tuberculosis in 67 carcases examined during the year ending December 31st, 1911, as compared with 73 carcases in 1910, 74 in 1909, 63 in 1908, and 62 in 1907. Of these carcases, 40 were of beasts and 27 were pigs, as compared with 49 beasts and 24 pigs affected with the disease in the previous year. Voluntary surrender of the affected organs or carcase (when necessary) was obtained. The quality of the meat generally maintained the standard of previous years.

During the year one case of Anthrax occurred in the Borough. The animal affected (a bull) was slaughtered in emergency at the Abattoirs, when the nature of the disease being apparent on post mortem, the carcase was reported in the usual way, and cremated on a spot near by. The necessary disinfection of the premises was carried out.

FARMS AND MILK SUPPLY.

The number of registered farms within the Borough at the end of the year was 63. Applications for registration under the Dairies, Cowsheds, and Milkshops Order were received from three persons.

The farms within the Borough have been regularly and systematically visited by Inspector Openshaw, with the result that the majority of the farm buildings are now in a very good sanitary condition. Several important improvements have been carried out, e.g., the provision of new shippons, &c., and from a reference to the Inspector's report it will be seen that other sanitary improvements, such as ventilation, drainage, lighting, &c., have been carried out.

MILK.—The quality of milk supplied in the Borough, as judged by the samples submitted for analysis, has been fairly good. Fifty-seven samples were taken by the Inspector (Mr. Cass) and submitted to the Borough Analyst, and with the exception of two samples were pronounced genuine. The two samples referred to above showed a deficiency of 10 per cent. and 20 per cent. of fats respectively.

Number of samples of milk taken in the past ten years:—

Year			Samples	. A	dulter	ated	Percentage Adulterated
1911	• • •		 57	• • • • • • • •	2		3.51
1910			 52		0	• • • • • • • •	- Wit annihilation H
1909			 60		4		6.6
1908			 51	• • • • • • •	2		3.9
1907			 43	• • • • • • •	0		
1906			 73	• • • • • • • •	7		9.6
1905	• • •		 76	• • • • • • • • • • • • • • • • • • • •	9		11.8
1904			 51	• • • • • • • •	2	• • • • • • • •	3.9
1903	• • •		 40	• • • • • • • •	3		7.5
1902		• • •	 46	• • • • • • • •	2		4.3

FOOD AND DRUGS.

The number of samples submitted to the Borough Analyst during the year was 195, an increase of 42 from the number in 1910. The number of samples taken in 1909 was 148, and in 1908 110.

With the exception of five samples of butter and two samples of milk, all the samples submitted were genuine. The percentage of adulteration is equal to 3.59 per cent. of the total samples submitted. In the preceding ten years the percentage of adulteration was as follows:—

Year.	Num	ber of Sa	amples.	Percentage o	of Adulteration
1910		153		• • • • • • • • • • • •	0.65
1909		148		• • • • • • • • • •	4.05
1908		ΙΙΟ			1.82
1907		121	* * * * * * * * * * * * *		
1906		142			7.0
1905		130	* * * * * * * * * * * * *		10.6
1904		113	* * * * * * * * * * * * * * * * * * * *		3.54
1903		97			11.49
1902	•••••••	78			3.8
1901		94		• • • • • • • • • • • • • • • • • • • •	4.2

SMOKE OBSERVATIONS.

The number of observations taken was 108, which is an increase of sixty-nine observations, as compared with the previous year. Of these 107 were of 60 minutes' duration and one of fifteen minutes' duration. The time limit of five minutes "black" smoke per hour was exceeded in 23 instances.

LEGAL PROCEEDINGS.—Legal notices were served upon 23 firms, and two prosecutions were taken for non-abatement of the nuisance, the result being that magistrates' orders for abatement were made, and the firm fined in each case 40s. and costs.

MIDWIVES' ACT.

√•>

The number of midwives on the register at the end of the year was 25, an increase of two from the total at the end of the year 1910. Four new midwives were registered during the year.

There is nothing to report regarding the conduct of the midwives, but some still find difficulty in the use of the clinical thermometer, and some being unable to write have to rely upon others to enter up their registers; these latter, fortunately few in number, are untrained and uneducated. The standard of midwifery work now carried out in Bury shows a higher state of efficiency, due, doubtless, to the supervision of the Central Midwives' Board, and the provisions contained in the Midwives' Act of 1902.

During the year 35 notices were received from midwives requesting the help of medical practitioners.

STILL BIRTHS.—Six still births were notified by medical men, 32 by midwives, and one by the parent during 1911, a decrease of three on the number notified during 1910.

Legislation as to the procedure to be adopted in the interment of still-born babies is desirable, in order to minimise the possibility of the occurrence of crime. TABLE I.

Table		showing	Number	oer of	Deaths	hs and	Rates	of	the P	Princip	ipal In	Infectious		Diseases	for	the p	past T	Ten Ye	Years.	
	IC	1902	91	1903	1904	4c	1905	3	9061	90	7061	20	1908	8	1909	60	0161	0]	191	
	No. of Deaths	Rate per 1000	No. of Deaths	Rate per 1000	No. of Deaths	Rate per rooo	No. of Deaths	Rate per 1000												
Smallpox		0.02	9	01.0	7	0.03		0.01	0	0	0	0	0	0	0	0	0	0	0	0
Measles		0.59	25	0.43	27	0.46	9	01.0	51	28.0	I	81.0	15	0.25	71	0.58	∞	0.13	56	0.44
Whooping C.	oI .	91.0	1	0.12	42	12.0	Н	0.01	9	01.0	27	0.46	9	0.10	13	0.55	0	0	12	0.50
Scarlet F'v'r	10	80.0	8	0.13	OI	91.0	2	0.05	73	0.03	Н	10.0	S	0.02	4	90.0	19	0.32	IO	21.0
Diphtheria	34	0.58	25	0.43	1	0.12	w	80.0	9	01.0	IO	0.17	IO	91.0	N	80.0	∞	0.13	10	60.0
Fever	4	20.0	4	20.0	7	0.12	II	0.18	Ŋ	80.0	S	80.0	4	20.0	4	20.0	m	0.02	0	0
Puerperal F.	н	10.0	Н	10.01	n	50.0	Π	10.0	4	20.0	9	01.0	71	0.03	7	0.03	71	0.03	n	90.0
Erysipelas	н	10.0	—	10.0	0	0	3	0.02	(1)	0.02	Ι	0.01	01	0.03	0	0	Ι	10.0	0	0
Diarrhœa	14	0.24	49	0.84	24	22.0	44	0.75	46	84.0	41	0.34	30	0.20	15	0.52	25	0.43	65	II.I
Influenza	9	01.0	Ŋ	80.0	 	81.0	10	91.0		0.12	OI	21.0	13	0.55	OI	41.0	7	0.12	∞	0.14

TABLE II.

Table Showing the Comparative Numbers of Sanitary Conveniences in the Borough in the Years 1902 and 1911.

	1911.		1902.
Number of privies	3668		5458
Number of pails	515		795
Number of fresh-water closets	4414		1909
Number of waste-water closets	2713		1569
	11310		9731
Number of inhabited houses	13721	• • • • •	12692

TABLE III.

List of Registered Midwives, corrected to February 1st, 1912:—

- *Collinge, Mrs. Jane, 74, Chesham Road.
- *Greenhalgh, Mrs. Bertha, 34, Old Doctor's Farm, Tottington.
- *Hampton, Miss Annie, 66, Vernon Street.
- *Carrington, Mrs. Mary Jane, 4, Richard Burch Street.
- *Pennington, Miss Sarah, 60, Walmersley Road.
- *Dodd, Miss Emily, 130, Walmersley Road.
- *Ingham, Mrs. Jane Parkinson, 94, Rochdale Road.
- *Howarth, Miss May, 35, Irwell Street.
- *Crompton, Miss Bertha, 145, Tottington Road.
- *Hacking, Mrs. Miriam, 116, Booth Lane, Tottington.
- *Haslam, Mrs. Elizabeth, 123, Bury New Road, Bolton.

†James, Mrs. Annie, 251, Bolton Road.

Pickup, Mrs. Mary Ann, 1, Chesham Road.

Arstall, Mrs. Mary Ann, Breightmet Fold, Bolton.

Taylor, Mrs. Ellen, 35, Union Square.

Nabb, Mrs. Esther, 1, Regent Street.

Morrison, Mrs. Louisa, 52, Manchester Old Road.

Cotterill, Mrs. Sophia, 108, Wash Lane.

Whiley, Mrs. Ellen, 20, School Street.

Rostron, Mrs. Harriet, 48, East Street.

Isherwood, Mrs. Elizabeth, 9, Shepherd Street.

Fitzpatrick, Mrs. Mary, 72, Whalley Road, Ramsbottom.

Cook, Mrs. Louisa, 46, Holland Street, Radcliffe.

Berry, Mrs. Eliza A., 7, Statter Street, Hollins.

^{*} Trained and certificated by examination.

[†] Has received some training, but has passed no examination,

TABLE IV.

List of Registered Keepers of Common Lodging-houses,

Griffin, Lucy, 9, Parkhills Street, and 20, Earl Street.

Wright, John, 38, King Street, and 41-43, Union Square.

Dodd, Lily, 16, Union Square.

Slattery, Elizabeth, 52, Union Square.

Taylor, Thomas G., 25, King Street.

Crossley, Benjamin, 18, Union Street.

Johnstone, Robert, 24, Clerke Street.

Tattersall, William, 26 and 28, Clerke Street, and 12, John Street.

Whitehouse, Samuel and John, 10, 12, and 14, Earl Street, and 56, Union Square.

Lees, Heaton, 5, 7, 9, and 11, Clerke Street.

Hindle, James, 2, 4, 6, 8, 10, and 12, Rochdale Road.

TABLE V.

DEATHS FROM PHTHISIS DURING THE YEAR 1911.

Ward.		Address.			Sex.	Age.	Occupation.
Moorside		30, Franklin Street			F	60	Widow
East		157, Wash Lane			\mathbf{M}	49	Cotton Weaver
Moorside		13, Maskill Street			\mathbf{M}	61	Labourer
East		22, Percy Street			\mathbf{F}	23	Spinster, Tailoress
Moorside		32, Buckley Street			$\overline{\mathbf{M}}$	23	Cotton Piecer
Elton		135, Crostons Road			\mathbf{F}	40	Spinster
East		Brown Cow, Fairfield			$\overline{\mathbf{M}}$		Cotton Weaver
Church		7, Cecil Street			$\overline{\mathbf{M}}$	38	Labourer, Paper Mill
Church		2, Frederick Street			F	34	Wife
Church		36, Wyndham Street			$\dot{ ext{M}}$		Innkeeper
East		8, Barrett Street			$\widetilde{\mathbf{M}}$	21	Bottler in Brewery
Church		Union Square		• •	$\widetilde{\mathbf{M}}$	59	Labourer
Moorside		10 Decreed Of t			M	34	Crane Driver
Church		Caravan Dwelling, Fairground.		• •	F	25	Spinster, Hawker
Church		Olandar Olanda		• •	$\dot{\mathrm{M}}$	60	Bricklayer
Moorside	• •	10 TT		• •	F	30	Wife
East		00 Dambury Otmost			F	63	Widow
Church	• •		noot		F	45	Wife
	• •	Knowsley Hotel, Haymarket St		• •	$\overset{\mathbf{r}}{\mathbf{F}}$	37	
Church	• •	60, King Street		• •		69	Spinster, Cotton Rover
Church	• •	16, Union Square		• •	M		Labourer
Church	• •	49, Union Square		• •	M	37	Salt Hawker
Elton	• •	10, Merton Street	•		M	8	Son
Elton	• •	20, Dearden Fold	•	• •	M	49	Cotton Weaver
East	• •	43, Shaw Street	•		M	21	Crofter, Bleachworks,
East		57, Wash Lane	•		\mathbf{M}	58	Iron Dresser
East		Horse and Jockey, Hotel .			\mathbf{M}	50	Licensed Victualler
Moorside		3, Haslam Street	•	٠.	F	51	Wife
Elton		88, Wood Street	•		\mathbf{M}	47	Joiner
Elton		140, Bolton Road			\mathbf{M}		Labourer
Moorside		11, Fox Street			\mathbf{M}	24	Cotton Weaver
Moorside		Taylor Street			\mathbf{F}	7	Daughter
Moorside		26, Garston Street			\mathbf{F}	36	Wife
Moorside		40, Cateaton Street			\mathbf{F}	68	Widow
Elton		2, Brooksmouth			\mathbf{F}	20	Cotton Operative
Church		Union Square			\mathbf{M}	53	General Labourer
East		2, Trimble Court			\mathbf{M}	39	Fish Hawker
Church		3, Margaret Street			\mathbf{F}	43	Widow
Moorside		Hornby Street			M	39	Licensed Beerseller
Moorside		17, Lathom Street			\mathbf{F}	33	Wife
East		55a, Bridge Street			$\overline{\mathbf{M}}$	18	Son
Church		35, South Garden Street .			F	19	Cotton Weaver
Elton		377, Bolton Road			$\bar{\mathbf{F}}$	42	Wife
Moorside		19, Britannia Yard			$\tilde{\mathbf{F}}$	28	Wife
East		94, Bell Lane			$\overline{\mathbf{M}}$	55	Brewers' Traveller
Elton		176 Tottington Road			M	27	Whitesmith
Redvales		1, Bradford Terrace			$\widetilde{\mathbf{M}}$	43	Master Tailor
Church		11, South Garden Street			F	19	Cotton Weaver
Moorside	• •	16 TTamailtan Ctmaat		• •	\mathbf{F}	57	Fent Sorter
Church		15 Dombbilla Otmost			$\dot{\mathbf{M}}$	56	Iron Core Maker
Church		70' Conth Condon Church		٠.	\mathbf{F}	14	Cotton Operative
	• •			٠.	\mathbf{F}	39	
Moorside -	• •	21, Denton Street		• •	\mathbf{F}		Spinster, Hatworks
East	• •	7, Back High Street		٠.		19	Cotton Spinner
Redvales	• •	Moss Place	•		F	33	Wife
Church		33, Trinity Street	•	• •	F	43	Wife
East		9, Bambury Street		٠.	M	24	Labourer
Elton		253, Tottington Road	•	• •	M	39	Labourer
Redvales	g	37, Gigg Lane			\mathbf{F}	29	Dressmaker

TABLE VI.

CHRONOLOGICAL ORDER OF

DEATHS FROM CANCER DURING THE YEAR 1911.

W. A. D. D.	4 DDB Edd	G	EV	ACT	DESCRIPTIO	N. N.T.	ORGAN	
WARD.	ADDRESS.	~	FiA.	AGE	DESCRIPTIO	IN.	AFFECTED.	OCCUPATION.
East	Workhouse		\mathbf{F}		Cancer		Uterus	Wife
Church	29, George Street		F	70	Cancer		Lower Jaw	
Moorside	Topping Street		M	62	Cancer		Liver	Umbr'la Maker
Moorside	39, Bedford Street		\mathbf{F}	63	Cancer		Intestines	
Elton	99, Wood Street		F	50	Cancer		Uterus	Wife
Moorside	39, Hardman Street		$\overline{\mathbf{F}}$	57	Cancer		Breast & Lungs	Wife
East	49, Brick Street	• •	F	52	Cancer		Uterus	
Redvales	53, Tenters Street		F	57	Carcinoma		Uterus	
East	Bridge Hall Fold		\mathbf{F}	80	Cancer		Liver	
	44, Lord Street	• •	F	82	Cancer		Liver	
Moorside	10, Franklin Street	• •	\mathbf{F}	43	Carcinoma		Mammæ	
35 13	(4) 777 3.0 3.3 77		3.5	٥٣	α		F219	Dressmaker
	64, Woodfield Terrace	• •	M	85	Cancer	• •	Throat	Finisher
Moorside	161, Walmersley Road		\mathbf{F}	65	Carcinoma		Uterus	
Moorside	4, Salford Street	• •	M	67	Carcinoma			Stationary Engine Driv'r
Moorside	Pump Street		\mathbf{M}	63	Epitheliom:	a	Mouth	Cotton Worker
East	10, Barnes Yard		\mathbf{F}	62	Cancer		Pancreas	Widow
East	Crescent		\mathbf{M}	66	Cancer		Liver	Labourer
Church	38, South Garden Street		${f F}$	62	Cancer		Uterus	
East	167, Rochdale Road		\mathbf{M}	47	Cancer		Esophagus	Independent
								means
			\mathbf{M}	44	Carcinoma		Large Int'stine	
			\mathbf{M}	65			Bladder	
East	Pitt Street	• •	\mathbf{F}	47	Cancer		Uterus	Wife
Møorside.	47, Hanson Street 48, Andrew Street		\mathbf{F}	81	Carcinoma		Gall Bladder	Widow
Redvales	48, Andrew Street		${f F}$	57	Cancer		Breast	Wife
East	6, Back Kay Street		\mathbf{F}	49	Carcinoma		Stomach	Wife
Moorside	87, Chesham Road		\mathbf{F}	69	Cancer		Breast	Wife
	13, Hanson Street		\mathbf{M}	63	Carcinoma		Liver	Joiner
Moorside	20, Porter Street		\mathbf{F}	34	Carcinoma		Stomach	Cotton Op'tive
Redvales	104, Spring Street		\mathbf{F}	48	Carcinoma		Uterus	Wife
	3, Linton Street		\mathbf{F}	64	Sarcoma		Breast	Widow
Church	29, South Garden Street		F	59	Cancer			
Moorside	233, Walmersley Road		$\underline{\mathbf{M}}$	50			Pleura	Clerk
			F	59	Cancer			
			M	52	Carcinoma		Rectum	Beerseller
	16, Dearden Fold		\mathbf{F}_{-}	73	Carcinoma			Widow
Redvales	88, Spring Street		\mathbf{M}	52	Carcinoma		Liver	Cotton Worker
	25, Maxwell Street		M	66	Cancer		Duodenum	Iron Dresser
	Bury Union	• •	\mathbf{F}	52	Cancer		Liver	Wife
	Bury Union	• •	M	47	Cancer		Neck	Iron Grinder
Redvales	74, Heywood Street		F	41	Sarcoma		Breast	Wife
	5, George Street		M	33	Cancer		Pylorus	Tailor
East	Bury Union		\mathbf{F}	59	Cancer		Breast	Widow
Redvales	3, Parliament Place		F	71	Cancer		Breast	Widow
	Walmersley Road		\overline{M}	68	Sarcoma	• •	Upper Jaw	Labourer
	ED Doob dolo Old Dood		\mathbf{F}	61	Cancer		Donitonoum	Wife
East Redvales	52, Rochdale Old Road 119, Manchester Road		F	50	Carcinoma		Peritoneum Uterus	Wife Widow

TABLE VII.

THE BURY AND DISTRICT JOINT WATER BOARD.

RAINFALL AT WORKSHOP YARD, PARSONS LANE.

ANNUAL REPORT OF THE BOROUGH ANALYST.

ANALYTICAL LABORATORIES,

54, Arcade Chambers, St. Mary's Gate, Manchester,

15th January, 1912.

To the Chairman and Members of the Health Committee of the Corporation of Bury.

Gentlemen,

In accordance with Section 19 of the Sale of Food and Drugs Act, 1875-1899, I herewith beg to report upon the various samples examined by me for the year ending December 31st, 1911.

During the 12 months your Inspector, Mr. H. C. Cass, has submitted to me 195 samples, consisting of the following articles:—

Butter	91
Milk	57
Milk (Skimmed)	3
Cheese	4
Lard	5
Margarine	I
Coffee	3
Pepper	2
Flour	1
Spirits	IO
Drugs	IO
Tinned Foods	8
Total	195

I made a careful examination of each of these samples, and found seven of them to be adulterated, viz.: Three of the butters contained an excess of water, amounting to 4 per cent., 5.6 per cent., and 10.15 per cent. above the legal limit of water allowed, and two of the butters were found to be margarine. I found two

of the milks to be deficient in milk fats, equal to an abstraction of 10 per cent. (No. 580) and 20 per cent. (No. 747) respectively. All the other samples were found to be genuine.

The adulteration is equal to 3.59 per cent.

Out of the 195 samples received, 103 of them were "informal, or test samples." That is, they were collected by the Inspector or his agents, who would not carry out the formalities prescribed by the Sale of Food and Drugs Acts. No sample found to be adulterated, taken in this manner, could form the basis of a prosecution against the vendor, but they gave some idea as to the quality of the articles sold over the counter in an ordinary everyday manner.

In the cases of the informal samples of butter herewith referred to, the discovery of three of them containing an excess of water, led to the Inspector taking three official samples, which were found to be genuine, while in the case of the butter, found to be margarine, the official sample proved to be margarine also. The vendor was prosecuted, convicted, and fined 40s. and costs.

Of the 57 samples of milk examined, 80 per cent. were of excellent quality, but the remainder came so near the standard limits in both fats and non-fatty solids, as to suggest that the vendors had profited by a study of the question of standards.

One of the samples (No. 580) was found to be 10 per cent. deficient in milk fats, and another (No. 747) was deficient to the extent of 20 per cent. of milk fats.

In the case of the three samples of skimmed milk, the Local Government Board's Regulations stipulate that skimmed milk shall not contain less than 9 per cent. of milk solids, and I here give you the particulars of analysis of each of the three samples which have come under my notice during the year:—

	No. 709.	No. 739.	No. 742.
Milk fats	1.5%	2.4%	2.0%
Milk solids, not fats	9.2%	9.1%	9.3%
Total milk solids	10.7%	11.5%	11.3%

These figures appear to have some significance. Milk is assumed to be genuine if it contains not less than 3 per cent. milk fats, and 8.5 per cent. milk solids not fats, whilst skimmed milk containing 9 per cent. of milk solids need not of necessity contain any milk fat at all. Judged, therefore, by the standards required for milk, these samples of skimmed milk would be as follows:—

No. 709 would be milk deficient to the extent of 50% fats.

I understand your Inspector only paid the price prevailing in this district for skimmed milk, but the quality of the articles sold to him, particularly in the cases of Nos. 739 and 742, would suggest that any ordinary member of the milk-purchasing community might have to pay the price of milk. The addition of skimmed or separated milk to new milk has become very prevalent, and as it is likely to lead to fraudulent practices notice should be taken of the unnecessarily rich qualities of samples of so-called skimmed milk. We have had occasional cases similar to these before, but not quite so marked as the cases here referred to.

I have found no trace of the usual "preservatives" used in the milk trade in any of these samples.

I found the tinned foods submitted to me to be perfectly sweet and wholesome. There was, however, a minute trace of tin discovered in the pineapple and in one of the salmons, but not in sufficient quantity as to be injurious to health.

These tinned samples consisted of—

3 samples of salmon.

- 2 ,, sardines.
- i ,, herrings.
- ı ,, lobster.
- ı ,, pineapple.

The ten samples of drugs examined were as follows:—

1 sample of glycerine.

ı ,, olive oil.

,, cod liver oil.

I ,, castor oil.

ı ,, bees' wax.

,, gentian root.

ı ,, spirits of nitre.

,, camphorated oil.

ı ,, liquorice powder.

ı ,, Gregory's powder.

Of these the samples of glycerine, olive, cod liver and castor oils were found to be genuine and taken as a whole of first-class quality. The spirits of nitre contained 1.75 per cent. ethyl nitrite, which is the lowest amount permissible, whilst the camphorated oil, liquorice powder, and Gregory's powder fully conformed to the prescriptions of the British Pharmacopæia.

I remain,

Yours faithfully,

THOS. J. HUTCHINSON, F.I.C.,

Borough Analyst, County Borough of Bury

INSPECTION OF CANAL BOATS.

PUBLIC HEALTH DEPARTMENT,

PARSONS LANE, BURY,

January 10th, 1912.

To Dr. G. Granville Buckley, Medical Officer of Health.

Dear Sir,

CANAL BOAT ACTS, 1877 AND 1884.

In accordance with the above Acts, I have pleasure in submitting to you the Annual Report directed to be made by the said Acts.

I have to report that no boats registered under the above Acts have visited the wharf at Bury Bridge during the year 1911.

I am,

Yours faithfully,

SAMUEL KAY,

Canal Boat Inspector.

REPORT OF NURSE WALTON.

PUBLIC HEALTH DEPARTMENT,

PARSONS LANE, BURY.

To the Chairman and Members of the Health Committee.

Gentlemen,

I beg to present to you the following report, being a summary of the work carried out during the year 1911:—

SUMMARY OF VISITS.

- 1104 visits to houses where births have been registered.
- 200 visits to houses in which deaths in infants under one year of age have occurred.
- 238 visits to workshops where women are employed.
 - 82 visits to homes of outworkers.
- 648 visits to homes in which cases of suspected Measles, Whooping Cough, Ringworm, &c., existed.
 - 33 visits to houses for disinfection after Phthisis and Puerperal Fever.
 - 6 Puerperal cases visited.
 - 59 notifications of Phthisis visited under the Public Health (Tuberculosis) Regulations, 1908.
- 53 visits to patients notified as suffering from Phthisis by voluntary notification.
- 80 visits to patients discharged from Aitken Sanatorium.
- 139 visits under the Shop Hours Act.
- 121 visits under the Shop Assistants (Seats) Act.
- 465 re-visits to babies during the Summer Diarrhœa season.
- 249 visits to Midwives.
 - 6 visits to uncertified women, practising as Midwives, who have previously been cautioned.
- 30 visits to investigate complaints of dirty homes and surroundings.
- 455 Smallpox contacts.

BIRTHS.—During the year I have been able to obtain information in 1,104, or 92.77 per cent., of the total (1,190) births registered as regards the feeding, &c., of the infants. Advice has also been given where necessary with regard to the feeding and general care of the children.

FEEDING.—631, or 58.06 per cent., of the infants were being fed naturally; 296, or 25.90 per cent., were fed by bottle; 162, or 14.67 per cent., being fed partly by breast and partly by bottle. 15, or 1.36 per cent., were fed by spoon.

From the above it will be seen that the percentage (25.90) of the bottle-fed children shows a slight increase as compared with the previous year (20.74). This is a very unsatisfactory feature. But it is pleasing to record that of the children fed by bottle it is only on very rare occasions that the old style of bottle with its long filthy tube is met with.

Of the 1,190 births registered, 145 died before the end of the year. Of these 10, or 6.89 per cent., occurred in breast-fed children; 84, or 57.93 per cent., occurred in bottle-fed children; 1, or 0.68 per cent., occurred in children partly fed by breast and partly by bottle; 12, or 8.28 per cent., occurred in children fed by spoon; 38, or 26.20 per cent., died within a few days of birth.

Deaths.—200 deaths have been recorded of children under one year of age. The following is an analysis of the nature of feeding:—

133, or 66.50 per cent., were bottle-fed.

13, or 6.50 per cent., were fed naturally.

4, or 2.00 per cent., were partly breast and partly bottle fed.

12, or 6.00 per cent., were spoon-fed.

38, or 19.00 per cent., died almost immediately after birth.

Of the above deaths (200), 45 were attributed to Diarrhæa, and from the information obtained it was found that all of these occurred in bottle-fed children.

Summer Diarrhæa.—In the early part of the year special note was made of the bottle-fed, delicate, and seemingly neglected

babies, and during the Diarrhœa season I re-visited all such cases, gave the necessary advice as to the cleanliness of homes, bottles, &c., and practical instruction in the preparation of infants' foods. Particulars were taken after the occurrence of deaths from this disease.

DIARRHŒA DEATHS.

Year.	No.	of Deaths	•	Bottle-f	ed.					Breast	-fed.	
1905	No.	33	27, or	81.82	per	cent.		6,	or	18.18	per	cent.
1906	• • • • • • • • • • • • • • • • • • • •	43	35, or	81.40	per	cent.	• • •	8,	or	18.60	per	cent.
1907		9	6, or	66.60	per	cent.		3,	or	33.40	per	cent.
1908	•••••	20	13, or	65.00	per	cent.		5,	or	35.00	per	cent.
1909		I2	II, or	91.67	per	cent.		Ι,	or	8.33	per	cent.
1910	• • • • • • •	19	17, or	89.47	per	cent.		2,	or	10.53	per	cent.
1911		45	45, or	100.00	per	cent.		0,	or	0.00	per	cent.

MIDWIVES.—As regards Midwives practising in the Borough, speaking generally, they have complied with the rules and regulations according to the Midwives' Act.

Puerperal Fever.—I have investigated in every case the Midwife's mode of procedure for some time before and after any case of Puerperal Fever which may have occurred in her practice, and have supervised the disinfection of bag and appliances, also personal cleanliness. In each case the Midwife was interviewed by the Medical Officer of Health.

Workshops.—During the year I have paid 238 visits to workshops where women are employed, and it is pleasing to record that the conditions under which the work is carried on are very satisfactory as regards cleanliness, light, ventilation, and provision of suitable sanitary conveniences. In cases where limewashing has been advised, such work has been carried out at the earliest convenience.

SHOP ASSISTANTS' (SEATS) ACT.—121 visits have been paid to shops, and in each case it was found that the sections contained in the above Act were being complied with.

SMALLPOX.—In connection with the outbreak of Smallpox which occurred in the early part of the year, at the request of the Medical Officer of Health, I visited 455 houses in respect to the

supervision and control of persons who had been in contact with patients suffering from Smallpox. I also assisted the Medical Officer of Health with a number of patients (female) who were either being vaccinated or re-vaccinated at the Public Health Office. I also undertook the disinfection of the clothing of all female contacts.

Outworkers.—Three lists of outworkers were received during the year, containing 65 names and addresses, to which I have paid 82 visits. In the majority of cases I found the respective rooms in which the work was being carried on in a very satisfactory condition. In a few instances, however, I have recommended that the workroom be cleansed and limewashed, and in each case the necessary work has been carried out.

Overcrowding.—During the year, in the course of my visits, the following houses have been found in which overcrowding occurred.

The following are particulars of the cases:—

- (1) This house was of the back-to-back type, two up and two down. Occupied by mother aged 56 years, son 24 years, son 16 years, and daughter 21 years. This family sleep in one bedroom containing three beds. Also married daughter, husband, and three children aged eight years, five years, and four months; and husband and wife, with daughter aged 16 years. These two latter families sleep in one room containing two beds. The house is dirty and badly ventilated. On the same day of visit the third family removed, and shortly afterwards the first family removed.
- (2) The house consists of a living room with a small scullery attached, and two rooms upstairs, and was occupied by the following:—Mother, aged 65 years; husband, 69 years; uncle (brother to mother), 56 years (Phthisis
- boy four years, and girl two years; husband, 37 years; boy four years, and girl two years; married daughter, 30 years; and also two children said to be on a visit. The Phthisis case was removed to the Union Infirmary, and the family of four removed to another house.

(3) This house consists of one room up and one room down, and was occupied by the following:—Wife, aged 36 years; husband, 39 years; daughter, 15 years; son, 13 years; son, 11 years; son, nine years; son, seven years; son, four years; baby, 13 months. It was arranged that the daughter should sleep with a relative, and the eldest son with a neighbour until a larger house was procured.

Visits to investigate complaints of dirty homes and surroundings were made. In many instances the homes were in a dirty condition. These houses were afterwards kept under observation, with a result that a decided improvement soon became manifest.

In cases where the children were found to be verminous, it was reported to the Inspectors of the Society for the Prevention of Cruelty to Children.

During the course of my visits to Houses let in Lodgings for the purpose of enquiring as to the feeding of infants, &c., I found these rooms, speaking generally, to be in a fairly clean condition.

PHTHISIS (NOTIFICATION).

Under the Public Health (Tuberculosis) Regulations, 1908, 59 notifications have been received, 22 being on Form A, 32 on Form B, and 5 on Form C. Eight notifications have been received under the Public Health (Tuberculosis in Hospitals) Regulations, 1911, and 27 notifications under the voluntary system in vogue in the Borough.

Much valuable information has been obtained from the notifications, as will be seen from the under-mentioned list:—

- 1. Female. Aged 52. Husband said to be suffering from Phthisis.
- 2. Male. ,, $5\frac{1}{2}$. Father suffering from Phthisis.
- 3. Female. ,, 38. Lodged with brother who died of Phthisis three months ago.
- 4. Male. ,, 38. Wife died of Phthisis four years ago.
- 5. Female. ,, 57. Husband and two sisters died of Phthisis

6.	Female.	Aged 25.	Parents died of Phthisis, four children
			also suffering from Phthisis.
7.	Male.	,, 39.	Mother died of Phthisis, four other mem-
			bers of family suffering from Phthisis.
8.	Female.	,, 19.	Mother and brother-in-law died of
			Phthisis.
9.	Male.	,, 45.	Four members of family suffering from
			Phthisis.
10.	Female.	,, 28.	Father died of Phthisis.
II.	Male.	,, 49.	Wife suffering from Phthisis.
12.	Female.	,, 17.	Phthisis on both father and mother's side
			of family.
13.	Female.	,, 37.	Father died of Phthisis.
14.	Female.	,, 28.	Father died of Phthisis.
15.	Male.	,, 46.	First wife died of Phthisis.
16.	Male.	,, 30.	Father died of Phthisis.
17.	Female.	,, 26.	Father and grandfather died of Phthisis.
18.	Female.	,, 18.	Father died of Phthisis. Brother suffer-
			ing from Phthisis.
19.	Female.	,, 41.	Mother died of Phthisis, father (aged 28)
			died of Phthisis, brother (aged 46)
			died of Phthisis, daughter (aged 8)
			suffering from Phthisis.

I remain, Gentlemen,

Yours obediently,

LILIAN E. WALTON.

REPORT OF MEAT INSPECTOR.

Public Health Department,

Parsons Lane, Bury.

To the Chairman and Members of the Health Committee of the County Borough of Bury.

Gentlemen,

I have pleasure in submitting to you my report for the year ending December 31st, 1911, on the inspection of Meat, Dairies, Cowsheds, Bakehouses, &c.

During the past year the various animals, carcases, &c., passing through the Public Abattoirs have been carefully examined, both before and after slaughter, and, generally speaking, the meat retailed in the Borough has been of a high standard, and fully equal to that of the past few years.

During the year it was found necessary to pay special attention to 86 carcases, of which number 67 were affected with Tuberculosis in varying degrees. These consisted of 19 cows, 6 bulls, 11 heifers, 4 bullocks, and 27 pigs. The remaining 19 were variously affected.

Of the cattle affected with Tuberculosis in only one instance was it found necessary to destroy the entire carcase and organs, the disease being extensive and generalised. In several instances considerable portions of the carcases and the whole of the internal organs were destroyed, and of the remainder the affected parts or organs were destroyed, after careful stripping had been carried out.

Of the pigs found to be affected, two entire carcases were destroyed (the disease being generalised), in several instances the heads and portions of the forequarters, and in the remainder the heads and such of the internal organs as were diseased.

It was also found necessary to condemn and destroy the carcases of six sheep (died or slaughtered while in a moribund condition) and one bull (Anthrax), this bringing the number of entire carcases destroyed to ten.

The following organs (variously affected) were also destroyed, viz.:—26 beast livers, two beast lungs, two beast kidneys, two beast udders, 13 pig livers, 10 sheep livers, and one sheep lungs.

On three occasions I have been called upon to inspect carcases slaughtered in emergency upon farms in the Borough. In each of these slaughter had been performed sufficiently early to enable the carcase being passed as fit for food.

I have also to report that one case of Anthrax occurred in the Borough during the year. This was a bull which was slaughtered in emergency at the Abattoirs, when the nature of the disease being apparent on post-mortem, the carcase was reported in the usual way and the necessary disinfection and cremation carried out.

During the same period the butchers' shops, fish shops, &c., have been constantly kept under supervision, regular and frequent visits having been paid to the same; the meat, fish, &c., coming under observation having been, with few exceptions, of satisfactory quality.

One hind quarter of frozen beef (bonestink), one box of frozen beef livers (putrid), three hind quarters of frozen beef (putrid), 2-cwts. flats and briskets (English, putrid), and one box of codfish (unsound) were destroyed at my request.

In every instance where the extent or nature of the disease has rendered the carcase doubtful, it has been reported to the Medical Officer of Health, and his advice sought thereon, this necessitating the attendance of him on several occasions.

FARMS.

of which there are 63. These have been kept in a fair state of cleanliness, and show steady improvement in their sanitary condition.

It was, however, necessary to warn one occupier for neglecting to limewash, and one occupier for the offence of slaughtering pigs on farm premises.

At Barlow Fold Farm the entire drainage has been taken up and re-laid in a satisfactory manner, and at several other farms minor alterations have been carried out, especially with regard to ventilation.

BAKEHOUSES.

The bakehouses have been kept under observation, and have been carried on in a satisfactory manner, there being no complaints to record. One application was received for permission to use a cellar as a bakehouse, this being granted by your Committee.

OFFENSIVE TRADES.

180 visits have been paid to the various offensive trade establishments in the Borough. No complaint has to be recorded against any of these premises, which have been carried on in a satisfactory manner.

ICE CREAM AND MILK SHOPS.

These have been kept under observation, one person being warned to cease the manufacture of ice cream owing to his premises not being satisfactory.

KNACKER'S YARD.

Regular and frequent visits have been paid to the knacker's Yard, generally three times weekly.

The business has been carried on with as little nuisance as possible, having regard to the nature of the work.

The number of animals received during the year was: 127 cows and 228 horses.

Of the cattle 75, or 59.05 per cent., were returned as tuber-culous; 48, or 37.80 per cent., as due to some form of inflammation; and 4, or 3.15 per cent., to various causes.

I am, Gentlemen,

Your obedient servant,

W. P. OPENSHAW, Cert. San. Inst.,

Inspector of Meat and other foods.

REPORT OF INSPECTOR HAWORTH, INSPECTOR OF NUISANCES.

PARSONS LANE, BURY.

To the Chairman and Members of the Health Committee.

Gentlemen,

I have pleasure in presenting to you my tenth annual report, this being a summary of the work done in the Sanitary Department.

REMOVAL OF NUISANCES.

218 188 277 191 201 282 413 390 227 266

In practically all cases of conversions it has been found neces-

sary to re-drain the houses on account of the drains passing through the yards of the adjoining houses; new connections have been made to the sewer and each house separately drained. The old gullis have been taken out, and self-cleansing gullies with channel dishbricks substituted. The middens in connection with the same, if good structurally, are filled up to a height of about nine inches above the adjoining ground, and a door 4-ft. by 2-ft. fixed to facilitate cleansing. In cases where structural alterations

have to be made the ashbin system is adopted in lieu of the ashpits, the ash-bins allowing a more speedy collection, and preventing
an accumulation of filth and other objectionable matter. In 18
houses the drains have been re-laid and connected separately to the
sewers; junctions have been made for branches to w.c.'s, thus
minimising the cost when conversions are made. The average cost
to the property owner, even when fittings (pedestal and cistern)
have been provided free, amounts to the sum of five pounds,
without any structural alteration.

The work of examining and testing drains and sanitary fittings on receipt of complaints, or at the occupiers' or owners' request, is carried out by applying the smoke and chemical tests. In all cases where defects have been found the drains have been re-laid, and thin cast-iron soil pipes substituted by heavy metal pipes, the joints of the pipes being made in a satisfactory manner.

NOTICES.

Housing and Town Planning Act, 1909.

30 closing orders have been served under Section 17 of the Act, and three notices under Section 15.

Public Health Acts, 1875 to 1907.

Thirty-one statutory notices have been served during the year in connection with the following matters:—

FACTORIES AND WORKSHOPS.

Eighteen to abate smoke nuisances.

One to abate nuisance caused by insanitary privy closets. One to provide more efficient ventilation.

DWELLING HOUSES.

Three to abate nuisance in connection with privy closets.

One	,,	,,	, ,	,,	choked drains.
One	,,	,,	,,	,,	defective drains.
One	, ,	,,	,,	, ,	damp houses.
Nine	, ,	, ,	, ,	3 9	dirty houses.
One	,,	,,	,,	, ,	insanitary wash-house.
One	, ,	,,	,,	, ,	insanitary stable.
One	, ,	, ,	,,	,,	an accumulation
	of stable	manure.			

Preliminary notices are served in all cases, and if possible personal interviews are made, before a legal notice is served, this course having the effect of getting the nuisances abated at once without the necessity of having to report them to the Health Committee.

Number of preliminary notices served	113
Number of letters in lieu of preliminary notices	252
Number of verbal notices	158
Number of letters sent other than notices	248
Number of special reports re sanitary fittings and	
drains	16
Number of notices served on occupiers	24
Number of notices served on occupiers of factories	
and workshops	15
Number of notices received from H.M. Inspector of	
Factories and Workshops, and copies served on	
occupiers	9

PROSECUTIONS.

Two prosecutions were taken for non-abatement of the smoke nuisance. Fines of 40s. and costs and an abatement order were made in each case.

Three summonses were taken against a landlord of a house let in lodgings, for non-compliance with the Bye-laws. Fines of 10s. and costs were made in each case.

The following table gives particulars of nuisances occurring in which preliminary notices have been served:—

Number of Notices.	Affecting.	NUISANCES.	Houses Affected
5 4 3 1 1 2 1 2 1 3 1 1 2	13 24	Factories and Workshops. Workrooms requiring limewashing	
4 3 7 12 27 27 2 1 8 5 15	4 3 7 17 27 38 2 1 8 5 15	Dwelling-Houses. Damp houses due to defective or without damp-proof courses	17 27 40 2 1 11 5
10 5 8 16 56	12 5 13 16 71	Defective yard surfaces Foul yard surfaces Dangerous places Water supplies insufficient Choked passage drains Choked yard drains	$ \begin{array}{c} 17 \\ 23 \\ 6 \\ 27 \\ 65 \\ 129 \end{array} $

Number of Notices.	Affect-	NUISANCES.	Houses Affected.
		Dwelling-Houses.	
$ \begin{array}{r} 28 \\ 37 \\ 33 \\ 26 \\ 7 \\ 2 \\ 9 \\ 1 \\ 3 \\ 36 \\ 30 \\ \hline 12 \\ 15 \\ 24 \\ 4 \\ 20 \\ 3 \\ 7 \\ 3 \\ \end{array} $	$ \begin{array}{c} 40 \\ 44 \\ 35 \\ 64 \\ 17 \\ 10 \\ 9 \\ 1 \\ 3 \\ 39 \\ \hline - \\ 17 \\ 34 \\ 4 \\ 22 \\ 5 \\ 9 \\ 3 \end{array} $	Choked waste-water closet drains Choked rain-water pipes and drains Defective drains Untrapped drains Defective traps to drains Defective waste pipes Untrapped waste pipes Untrapped waste pipes Untrapped waste pipes Untrapped waste pipes Waste pipes connected direct to drains Defective sanitary fittings Defective rain-water pipes Defective eaves troughing Without proper eaves troughing Closets without accommodation ,, structurally defective ,, and approaches foul ,, cisterns out of order ,, water pipes burst ,, without a proper water supply	97 70 43 81 27 11 11 1 3 43 48 15 30 104 9 47 14 15
	1	without a proper water cumby	
	Privy Pail Addit Wast Total	ection with dwelling-houses and other premis closets converted to fresh-water closets closets converted to fresh-water closets ional fresh-water closets provided	es:— 154 30 osets 2 etion 218

Privy middens pulled down and ashbins substituted	20
Number of ashbins provided (galvanised iron)Fixed	19
,, ,,Portable	40
Number of dry ashpits provided	63
Number of defective ashbins replaced by new ones	24
Ashpits provided with new doors or repaired	32
Ashpits and privy middens repaired or modified	,13
Pail closets repaired structurally	2 9
New pails provided to pail closets	54
Fresh-water closets put in order (cisterns 22, pipes 13)	35
Waste-water closets put in order	17
Traps of waste-water closets unstopped	379
Traps of fresh-water closets unstopped	78
Water closet pedestals, soil pipes, and ventilating pipes	
renewed	5
Sanitary fittings (other than water closets) repaired or	
renewed	2
Choked drains unstopped and cleansed—cellars 2,	
passages 17, yards 58, rain-water pipes 26,	
water closets 39, waste-water closets 52	194
Defective drains taken out and new drains re-laid	
Waste pipes trapped and repaired	14
Defective rain-water spouts renewed	42
Defective eaves gutters renewed	34
Rain-water pipes and drains—intercepting traps fixed	41
Defective yard pavement repaired 13, yards cleansed 11	24
Houses in which repairs to plaster, roof, and woodwork	
have been carried out	43
Houses cleansed and limewashed	25
Cases of overcrowding dealt with	I
Defective fireplaces and chimney flues repaired	7
Animals and fowls removed	
Foul accumulations removed	_
Nuisances of a miscellaneous character dealt with	0
Buildings taken down	

SMOKE OBSERVATIONS.

108 smoke observations of the mill chimneys have been taken, 107 being of 60 minutes and one of 15 minutes' duration. The aggregate amount of black smoke evolved was 432 minutes, which is equal to an average of four minutes' black smoke for each observation. The time limit (five minutes in the hour) permitted by your Council has been exceeded 23 times by 19 firms, the aggregate amount of black smoke emitted by these firms being 299 minutes, which is equal to an average of 13 minutes for each observation.

As early as convenient after each observation a copy thereof is forwarded to the firm in question. This courtesy is much appreciated by the management, as it enables them to at once ascertain the cause of any abnormal emission of black smoke.

The following table gives the result of the twenty-three observations exceeding the limit:—

Initials of Firm.	Black	smoke.	Mode mins.	rate.	No mins.	
J. K. S. & Co	mins.			secs.	_	secs 30
		30	0		_	~
B. P. M. Co. Ltd		O		O		0
H. & C		30	30	0	15	30
S. S. & S. (Wat. St.)		30	23	O	· I 5	30
B. D. Co. Ltd	20	30	28	O	11	30
W. L. & S	IO	30	25	45	23	45
S. S. & S. (Heap Bridge)	7	45	28	15	24	Ο
W. L. & S	5	I 5	32	O	22	45
O. B. Ltd	20	O	33	O	7	O
*H. & C	27	0	22	0	ΙI	O
C. W. & Co. Ltd	IO	30	2 I	O	28	30
Y. B		30	35	30	18	O
W. P	7	30	~ -	0		30
J. R. C. & Bros. Ltd	9	0	_	O	6	0
J. W. & S	ΙΙ	50		30	16	50
H. S	IO	0		· o	15	0
B. F. M. Co. Ltd	5	30		30	0	О
B. C. S. & M. Co	9	0		0	0	0
P. S. & M. Co	15	O		30	3	30
O. B. Ltd	7	30	• _	30	2	0
*O. B. Ltd		0	0	0		
	27	30		0	2	30
S. S. & Sons	9	30		30	IO	О
J. W. & S	6	30	32	O	2 I	30

Legal notices were served under Section 94, Public Health Act, 1875.

*Prosecuted for non-observance of notice.

Two prosecutions were taken for non-abatement of the nuisance, the result being that magistrates' orders for abatement were made and the firm fined in each case 40s. and costs.

INFECTIOUS DISEASES.

1,174 visits have been made to houses in which cases of infectious diseases have occurred, and to contacts with patients who were suffering from an infectious disease, and notified to the Medical Officer of Health, the number of notifications received being:—

Smallpox	30
Scarlet Fever	220
Diphtheria	44
Enteric Fever	25
Erysipelas	32

On receipt of each notification the home is visited, and the patient is isolated, either by removal to the Hospital or placed in a separate room at their own home. If the patient is kept at home, instructions are given as to isolation and disinfection, and the house is revisited during the period of convalescence. The sanitary condition of the house is ascertained, and when defects are found the owners are communicated with, and a report of each case is submitted to the Medical Officer of Health.

The practice of notifying the owner and requesting him to adopt the water carriage system of closets in lieu of the privy midden type is carried out, when a privy midden is found in connection with a house in which a patient is suffering from Enteric Fever or Diphtheria.

During the epidemic of Smallpox, each family was kept isolated at their home for a period of 14 to 18 days after the case had been notified, your Inspector visiting each house daily and supplying them with the necessary food, &c. In only one case was there a person infected during the period of isolation.

COMMON LODGING-HOUSES.

There are 24 houses on the register of Common Lodging-houses, and to these places 130 visits were made during the year.

Generally speaking the houses are kept in a fairly clean condition, and will bear comparison with the standard of cleanliness found in private houses.

All the houses were limewashed, in compliance with the Public Health Act, during the first week in April and October.

The following nuisances were dealt with during the year, and for which letters or notices were sent:—

- 5 in connection with water closets choked.
- 3 ,, insanitary closets and ashpits.
- 3 ,, structural defects.
- 4 to repair defective eave gutters and rain-water pipes.
- 5 in connection with choked and defective drains.
- I for house not having a sufficient supply of water.

In one instance the structural defects were such that the complaint was dealt with as a dangerous building, by notice, and part of the structure rebuilt.

During the year the Health Committee have appointed, under Section 85 of the Public Health Act, 1875, one police-sergeant and two constables as additional inspectors of Common Lodging-houses. This course is appreciated by your Sanitary Inspectors, who have long recognised the necessity for the supervision of these houses on other than sanitary matters.

Two transfers of the licence as registered keepers were sanctioned by the Health Committee during the year.

HOUSES LET IN LODGINGS.

The number of houses on the register at the end of the year is 42, four having been given up and twelve added during the year, the number of rooms being 212, which are registered for 471 adults and 82 children.

The houses are inspected periodically by your Inspectors and the plain clothes police officer appointed for this purpose. The rooms have been kept clean, and the following notices have been served to abate nuisances:—

3 in connection with insufficient closet accommodation. foul privy midden. I ,, ,, defective water closets. 2 ,, choked drains. 3 defective waste pipe. Ι ,, defective rain-water spout. Ι 22 defective pavement in yard. 2 foul passages and yard. 2 defective flag passage. Ι defective ashbin. I ,, accumulation of refuse. Ι ,, 22 (room verminous) to fumigate and I ,, 99 cleanse. limewashing and stripping paper off 3 ,, walls.

The houses are limewashed at the specified time in accordance with the Bye-laws, a copy of which has been presented to each landlord.

It was necessary in one case to take legal proceedings to get the abatement of nuisances caused by defective water closet, insufficient number of water closets, and unpaved yard surface at one house. The landlord was fined 10s. and costs in each case, and he subsequently gave up the house.

EXPLOSIVES ACTS.

Forty-three persons were registered for the sale of explosives during the year as required by these Acts, 40 being for the sale of fireworks as mixed explosives, two for the sale of gunpowder, and one licence was granted to store explosives for quarry purposes. The sale of fireworks lasts only for a short time, i.e., about three weeks in the latter end of October and the beginning of November. All the shops are visited during this period. Dummy

fireworks are now exposed for advertising purposes. Gunpowder sold by the ironmongers and locksmiths is kept in the safes in small quantities.

PETROLEUM ACTS.

Under these Acts two licences have been granted for the keeping of petroleum, six for petrol, and three for calcium carbide. One application was transferred to a Sub-Committee to inspect the proposed store, and after inspection and the carrying out of certain suggestions, the licence was granted.

SHOP HOURS ACTS.

The shops within the Borough are periodically visited. In several instances the notices required under Section 4 of the Shop Hours Act were absent. The occupiers, on being informed of the breach of the Act, quickly obtained the notices from the Health Office. The number of hours which Section 3 of the Act allows, i.e., 74 hours, is seldom attained, the hours being regulated by the respective trade associations. The hairdressers' and butchers' shops are governed by Closing Orders.

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,, Houses overcrowded	28
,, Flooded cellars	30
,, Houses damp	6
, Defective rain-water spouts and eaves gutters	210
,, Drains choked, dilapidated, and untrapped	541
,, Defective waste pipes	7
,, Testing drains and fittings	14
"Water closets	298
, ,	

Re	Privy middens and ashpits	288
,,	Accumulation of refuse	4 I
, ,	Foul ditches, water courses, &c	5
, ,	Smoke nuisances	2
, ,	Dangerous buildings	3
, ,	Work in progress	396
,,	Appointments and nuisances of a general	
	character	583

In conclusion I have to express my sincere thanks to Inspector Kay for the most able services which he has rendered in the carrying out of the work embodied in this report. I also wish to express my thanks to you for your kind consideration.

I am, Gentlemen,

Your obedient servant,

JOHN HAWORTH, M.S.I.A.,

Certified Inspector of Nuisances and Sanitary Engineer.

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